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CONTEMPORARY ARCHITECTURE

A Symposium Presented at the Sixty-Third Convention of The American Institute of Architects, Washington, D. C., May 21, 22, 23, 1930

Distributed by the Committee on Education of The American Institute of Architects.

Morning Session—May 21, 1930.

THE CHAIRMAN, MR. LOUIS LA BEAUME, of St. Louis:

Gentlemen of the Convention, just how this feature of the program came to be formulated, I do not know.

I have heard, of course, the excuses of President Hammond and the explanations of Mr. Butler, Chairman of the Institute's Committee on Education, and I realize that it has long been the custom of the American Institute of Architects to discuss at decent intervals the general subject of architecture. (*Laughter.*) It has heretofore been considered a safe, if not always an interesting, subject.

We have regarded our art as a noble one. There has been a sort of gentlemen's agreement on that point, and while we have been catholic in our tastes and generous in our appreciation of historic achievement, we have felt that deep within us burns some bright flame which we knew as our artistic conscience. It lighted the path of assured beauty and warned us away from the pitfalls of error. So our discussions in the past have been mild and scholarly and decorous.

This discussion today promises anything but any of these qualities. For apparently our Board of Directors, and perhaps our membership generally, has waked up to the fact that we are facing a crisis. And nobody can be calm or judicious in a crisis. There are suspicions that architecture is not all it has seemed to be, certainly not all that it might be. As guardians of the temple (if I may use in my role of moderator such an old fashioned word), we are a house divided against itself. There are traitors and laggards in our midst. I stand in a perilous position between the two factions.

Throughout history the tension between modernist and traditionalist, between progressive and conservative, has always been painful. Both sides have usually done and said foolish and ugly things. The gentlemen who are to speak today will probably prove themselves no exception, for man is but a weak creature though (or perhaps especially because) he be an architect.

I am rather inclined to the opinion that it is the modernists who are forcing this discussion. The standpatters seldom have to force anything. All they have to do is to sit tight or stand tight with the weight of custom and inertia and respectability behind them. This of course is maddening to the modernists, and the madder they get the more they indulge in excess. The corollary to this statement is of course that the greater the excesses of the modernists, the greater and naturally the more irritating the supercilious complacency of the conservatives.

So let us try to condone in advance the passions and prejudices of both parties. Let us try to remember that though the world is very old in its wisdom, it is comparatively young in its knowledge. And lest this statement be misconstrued by either party (and both we know are very touchy) let us hasten to add that we all agree that the world does move.

Moreover, it has been moving with considerable rapidity of late. We are all of us, even the youngest, the newest and shiniest and most modern of us, feeling a little dizzy as a result of our increased acceleration.

We may be passing through a sort of cosmic typhoon which affects us giddily; or the new tempo may, as the modernists seem to think, endure eternally. In any event we shall all be calmer presently, for if we don't slow down we shall at least recover our sea legs and some of our equanimity.

These general remarks, I may say in passing, are intended to induce a philosophic attitude, and are as pertinent to our social, commercial and scientific activities as they are to our architectural theories. We are apt just now to preen ourselves a good deal on the conquest of science and our marvelous mechanical accomplishments. Scientific achievement during the past forty or fifty years has been so astounding that the man of science has all but crowded everybody but himself and the man of business off the stage. The poet, the phi-

losopher and the artist seem but poor dawdlers who have lost their way in a world too diverted by electrons, glands and mechanical whirligigs to pay much attention to them.

Absorbed in contemplation and concerned with what they were wont to term the eternal verities, these gentlemen have seemed, with a few notable exceptions, not to have kept themselves au courant with the gossip of the moment, or with the changing fashions of what we are wont to call civilization. The most startling discoveries of science appear to interest them but mildly, and they assert, not without a certain degree of plausibility, that men were men long before they became scientific.

They seem to feel that Truth is immutable at its kernel in spite of changing hypotheses, and doctrines of relativity; and that art ministers to the spirit rather than to man's physical, ephemeral or mechanical needs. Science they say is all very well and may enrich enormously man's material existence. But they point to the fact that great art and great architecture and great philosophic ideals flourished long before Gallileo or Columbus or Newton or Harvey or Pasteur or Watt or Edison or Westinghouse or Otis or the Wright Brothers or Madame Curie or Henry Ford or Alfred Einstein made their important and breathtaking contributions to the world's store of knowledge.

On the other hand a few, and it must be admitted, a rapidly increasing number of keen and intelligent observers have been mightily stirred by the news which has come out of the dissecting room, the laboratory, the hospital and the experimental station. Their imaginations have been fired by tales of the rifling of nature's secrets and they flame with a holy zeal to celebrate in terms of art the glad tidings from the battle fronts of Science. These enthusiasts are popping up, the world over, and their ranks are filling with painters, sculptors, writers, musicians and architects. They are heralding a new day in art. The dawn broke some time ago but chanticleer continues vociferous. He will allow the sleepy heads no rest. So here we are some of us still rubbing our eyes and wondering what all the racket is about.

In the hope of ultimate quiet I beg you to give both chanticleer and sleepy-head a respectful ear. Try to be fair to both.

You are apt to hear the words logic and beauty bandied about, but do not be too greatly beguiled by either. Logic is seldom all that it is cracked up to be, and beauty is often too sensitive a thing to be analyzed. You may hear reverent references to the Greeks, not to the modern Greeks, but to the dead ones. You will treat those references with respect, but you will be no more affected by them than you are by a senatorial reference to the sanctity of the Constitution. You may hear similar reverent references to the Germans, not the dead ones this time but to the live ones, and to the Finns and the French and the Swedes. Pay but little attention to them either. Remember Washington's words against entanglements.

You will be told that times have changed, and that statement will receive your hearty endorsement if you are still awake at the moment it may be made. Perhaps you may hear references to the trim and efficient appearance of motor cars, locomotives, turbines, washing machines and dredges, but reflect that we are discussing architecture and not machinery. Surely it is well to be rational at times, but the divine unreason of the poet may sometimes win its own justification. And finally while sincerity may indeed be one of the seven deadly virtues, tact hath its victories no less than fact.

Great stress will be laid upon the moral and perhaps the esthetic obligation to express certain materials honestly, to treat them frankly. Well, it implies no lack of candor to snub a material when it merits that kind of treatment. After all, it is perhaps the transmutation of materials, the suppression or subjection of them, that concerns the artist. His function is to translate them into spiritual terms so that his ideal of harmony and peace will strike a responsive chord in the heart of a fellow man.

But I am afraid I go too far. My function today is simply to introduce each speaker and announce his subject so that you may know which side of the issue he is striving to justify. Incidentally, I hope that no foul blows will be struck.

It is now my pleasure, gentlemen, in accordance with the terms of the program, to introduce the first speaker, Mr. George Howe of Philadelphia, whose carefully prepared paper I hold in my hand.

ADDRESS OF GEORGE HOWE

MR. HOWE. Modernism is not a style. It is an attitude of mind. Greek and Gothic are immutable only because they are mere images of realities that no longer exist. Modernism is as changing as daily life. It is also as inevitable.

Whether one uses the word modernist or contemporary to qualify the architectural consequences of this state of mind is of no importance. Words are valuable only by their connotations in the minds of those who use and hear them. Though some share the French preference for "contemporary," I believe in our language, and in America "modernist" more closely corresponds to the idea I wish to convey.

Modernism is liberalism. Like political liberalism, it includes every shade of opinion from liberal conservatism to radicalism. Revolutionary violence is necessary in critical periods as an answer to the obduracy of rank conservatism.

Timely revolution, whether peaceful or violent, raises its head only when the institutions of conservatism have outlived their usefulness. It triumphs inevitably and becomes conservative in its turn. The time has come to consolidate the advantages gained by the great radical leaders. To them all praise and credit are due. They have opened the way to architectural freedom.

Before modernism appeared, traditionalism had failed dismally and completely to provide the architect and the building trade generally with a flexible instrument of design applicable to all problems and able to achieve a coherent architectural community. In Europe and America alike, the great economic and industrial organization has been developing away from order toward architectural chaos.

Today the great mass of building is a sprawling mess. Good architecture is the privilege of the few cherished in cloistered and scholarly minds. It has lost all touch with the everyday needs of men except in their most conspicuous and monumental manifestations. The efforts of architects to guide the democratic tide of construction have proved futile because traditionalism is personal and exclusive.

Traditionalism has failed even to achieve complete success in its own aims. Having been through the traditional mill during eight years of schooling and fifteen years of practice with some measure of success, I know whereof I speak and speak impartially. Traditionalism has failed, not in the eyes of the public and the art critics but in the eyes of architects. The road has come to a dead end. The pioneers of the modern movement have pointed the way out.

The traditionalist has failed because he has overemphasized the forms and materials of traditional architecture and disregarded the teachings of tradition in regard to method. His fault lies in having learned his lesson from books instead of from life. The sudden impact of a scientific and mechanical revolution has disrupted the old human organization and technique of building. The traditionalist has refused to face the fact. Instead of accepting the new human organization and striving to extract from it, by a new technique, the last ounce of architectural opportunity, he has tried to bend modern tools to the purpose of preserving the externals of stylistic beauty.

Since he has refused to deal in modern technique as a means to architectural design, the architect has no longer been able to refer to technical competence as a court of last appeal. He has wilfully resigned his post as judge in matters of contemporary architectural expression. In order to maintain his authority, he has set up the bench of taste based on archaeological erudition. Unfortunately, taste is not subject to codification. As a result every man, lay as well as professional, can claim as great a knowledge of its vague laws as his neighbor.

Every decision of the new bench has been accompanied by a sheaf of dissenting opinions and liable to reversal at the first hint of public outcry. No man is now safe under the law. Fear reigns at every council table. Laymen and architect alike strive to find a formula to anticipate the irresolute moods of the judges.

The compromise they arrive at is necessarily negative from an artistic standpoint. It is not so for want of sturdy effort. No expense is spared or trouble shunned. I have recently heard of a great railway station which has been redesigned three times in different styles, though the maintenance of service at the new site requires its early completion. After months of futile argument the case will close as always, in a babel of tongues amid jostling, haste and confusion.

The uncertainty of the law of taste has prevented the traditionalists themselves from choosing for perpetuation any one style from among the many provided by the past. A

selective process began about a century ago. It has given rise to a succession of revivals, the Classic, Gothic, Imperial Roman, Italian, French, Spanish, Aztec, Georgian, Colonial and the others, with their amorphous derivatives. At first the several styles were tried outmore or less serially but this process proved too slow. At last they were all thrown together into a grab-bag from which any honorable traditionalist was entitled to draw one style for each building he designed or erected.

The multiplicity of styles has greatly enhanced the technical difficulties of the traditionalist. Since each style requires its individual technique of expression, differing radically from that of modern industrialism, a corps of assistants and workmen has had to be instructed in the superficial characteristics of many archaic technical methods. They have been trained according to the standards of handicrafts which no longer exist to achieve an appearance of mellow age their buildings are never to attain.

For many years before the modern movement got off to a fair start, the traditionalist had been corrupting the taste for perfect finish of the mechanic and the material man. At his bidding hundreds of workmen, at the base of every great cathedral and in every college close, were painfully disfiguring the beautiful mechanical surfaces of cut stone. On apartment house walls skillful plasterers were parodying the touch of the peasant hand with oily pastes prepared in daylight factories, and painters with rag and brush were applying as much dirt as would normally have accumulated in a hundred years.

In the shop of the ironworkers elaborate antique wrought designs were being stiffly imitated with the electric welder and the file in non-corroding metals which would not stand the fire, and every now and then the boss would quit to answer a telephone inquiry from an architect as to how many hammer marks should be specified to the square inch. In the suburbs the mason's trowel and the carpenter's adze could be heard scraping and hacking at $500,000 cottages.

Ornament and texture were applied with as little inherent relation to structure as a coat of whitewash. Whenever a really important project was afoot, some well-known theatrical scene-painter would be called into consultation.

The admirable if mistaken patience and perseverance of architect and workman alike in their mad undertakings were astounding. It was as though for every new composition a composer had undertaken to learn an archaic system of music, notation and instrumentation, and teach it to a whole orchestra.

But the difficulties of the traditionalists did not end with surfaces and textures. The functions of modern life in ever-increasing number and variety refused to be bound within the confines of stylistic beauty. The new body would not fit in the old shell. If the vital organs were not cramped, there were air-pockets around them. The eyes would not coincide with the holes in the mask. There were a hundred evidences of those imperfections of technique distressing to good workmen.

Internally, the secondary and often the primary openings imposed by symmetrical façades refused to accommodate themselves to the complicated subdivisions of the human ant-hill. False buttressing masonry condemned innumerable workers to perennial darkness. Here and there queer closets and inexplicable voids concealed palpable skeletons in the shape of ugly modern things that mocked the canons of taste. On all sides the implements of daily life waged successful war on their archaeological neighbors.

Externally all was not well, either. With a fine respect for codified law, the traditionalist had continued to demand the preservation of certain appearances of structural stability and proportion based on the requirements of monumental masonry. He passed over the obvious fact that steel and concrete are rather an extension of the technique of the wooden frame. He had educated the public to feel with him that a strong base and solid corners were indispensable to sound construction, although he daily passed under buildings in course of erection whose walls were suspended in mid-air without any sign of external support.

Unfortunately the show window of the cold and mercenary retailer had begun to knaw at his sham granite piers and the corner office windows of the relentless realtor at his mighty card-board angles, but he kept as much apparent masonry as he dared, wiped away a tear, and continued to run his strong romantic verticals from top to bottom of his cathedrals of commerce, however precariously they might appear to be sustained by a fragile substructure of plate-glass.

Modern windows were his nightmare as the enemies of masonry. To him, an opening was not a mean utilitarian object, to give light or to pass through, but an object of art copied from the antique. He cherished these children

of the past as his own. As day by day, before his pained eyes, they were ravished in the name of necessity, he redoubled his efforts to hide the shame of their deflowerment in richer and costlier robes.

At sight of so futile an effort to bend the giant of modern civilization to an archaeological purpose, the modernist has laughed and wept by turns. While Titans were forging weapons to make him invincible in battle, the architect was calling for a pocket-knife.

The modernist did not propose to do likewise. He proposed to use the weapon of modern construction and modern materials to the full, for architectural expression as well as for practical ends. He also proposed to be limited by their present development until he and his like could control their growth, enlarge their scope and make them more flexible.

He did not proposed to develop a personal technique to astound the world by his originality and arrive at one bound at ultimate perfection. He proposed to develop a technique that every man connected with the building industry today could understand and use, owner, architect and hod-carrier alike. He proposed to eliminate archaeological taste, with all its petty disputes as to style and correctness as a standard of judgment in fundamental matters, and leave men free to develop their common architectural heritage out of a full command of the forces of expression latent in modern technology.

He has accepted conditions as they are from the rigidity of the drawing-board, T-square and blue print in his office to the planing machine and the lathe in the factory that produces the materials in which he works. He has boldly asserted that the rich texture of handwork was beautiful, not because of its irregularity but because the workmen who produced it used their tools with imagination. He knows that the straight line and unbroken surface of machine work can be as beautiful if we inspire them with imagination. For the machine's lack of personality in execution, he intends to compensate by a greater intensity of form, design, color and material.

He has worked with plain masses and surfaces because no school of modern decorators, has yet taken its place within his technical framework, and until it does he knows he has enough to do without attempting to establish it himself. He does not consider decoration an essential part of architecture. He is convinced that any great monument of the past would remain a great monument by its function, proportion, and execution, even if stripped of every detail. Instead of bemoaning, like the traditionalist, the decay of the fine arts and handicrafts, he has set himself to learn his own business.

He accepts the fact that structural masonry has disappeared from our industrial architecture, and is doomed to disappear everywhere. He recognizes that skeleton construction places no limits on the size of openings, and that modern standards of health demand light and air, while commercial enterprise exacts large areas of glass for display.

Seizing with imagination and courage the opportunity offered by the elimination of the rules of design imposed by gravitational stability, he has suspended about his skeleton framework a gossamer veil of glass and light building materials, and created a new style based on the old common law of architecture reformulated to meet modern needs in the light of modern economic and engineering genius.

Within the infinitely flexible envelope made possible by the means of construction at his disposal, he distributes complex specialized modern requirements to the greatest advantage of purpose and effect without reference to the external aspect of any preconceived axial or irregular system based on more primitive needs. He is establishing an organic architectural expression in which requirements, plan and elevation are moulded into a coherent and comprehensible artistic unit.

The modernist despises neither tradition nor beauty. He objects only to the traditionalists' rigid interpretation of their meaning. He believes that essential beauty which appeals to all men transcends personal taste. Taste does not create styles; it lay on and evaluates the last touch of perfection. It is not a steam shovel to move mountains; it is an individual instrument of precision.

The modernist knows that tradition does not impose by the accidental periodic detail of its monuments. The monuments are great through the skill of their creators in expressing the human purpose of their civilization, whether spiritual or material, by the most complete use of the human and mechanical tools of building and ornamentation at their disposal. The old architects did not create their human or even their mechanical tools. These, like the tools of today, were the products of years or centuries of experiment by the the whole community in many fields not always directly allied to architecture.

The artists accepted their inherited implementation, fathomed its possibilities and recog-

nized the limits beyond which it was outside their personal sphere of control. Tradition shows above all that the acceptance of the whole technique of the life of his period, both as outlet and limitation, is essential to the expression in concrete form of the individual architect's sense of beauty.

This old lesson has been reformulated in the broadest acceptation of the term functionalism. The modernist does not claim it as an original discovery. The theory that form follows function has been taught in the schools since their foundation, and it was so obvious in the past that it required no enunciation. The originality of the modern pioneers has lain in reestablishing in practice the full meaning of a principle the traditionalists have been mumbling in their sleep for years without understanding what it meant.

The radical application of the scholastic commonplace that plan governs elevation has involved a complete revision of the present-day conception of external design. According to this revised new-old conception, form is not something to be learned from Vignola or any other authority and judged according to the standards of its source. Form is to be drawn from the very heart of the human and architectural problem of daily life. It is to be judged according to its fitness to its purpose, whether spiritual or material.

The artist is to be judged not by his archaeological or scholastic attainments but by the imagination he shows in fathoming the inherent architectural possibilities of his problem and his success in expressing them by every means at the disposal of that modern civilization of which his building is an integral part.

Many types of architecture pass under the name of modern. Most of them are based on decoration or on a non-structural interpretation of architectural elements as pattern. They have shown themselves to be as unstable and subject to the whim of fashion as the traditionalist types. The only modern architecture that has developed consistently in a recognizable direction, either in Europe or America, is the purely organic and functional. It carries no deadweight of traditionalist compromise. It is free and spontaneous.

Functionalism is the raw material of modernism. It is slow to shape, but year by year it has gained in strength and articulateness. The number of its brilliant disciples is constantly increasing. It is susceptible of the simplest as well as the richest expression. It is international and comprehensive, not personal and exclusive.

The modern movement has been the work of a few men developing a common technique to the common end of architectural expression. When it is accepted as the heritage of all men interested in building, the foundations of a great architectural future will have been laid. Successive generations will build on them instead of packing the earth's surface with unprofitable test borings, each abandoned as soon as made. The architect's authority, founded in contemporary building technique instead of archaeological scholasticism or private tastes, will be reestablished. He will no longer have to tremble or growl at the voice of public taste.

A realistic technique is indispensable. Dreams are idle without it. For years men dreamt of flying like birds or bats. They were not destined to fly like either. Their prayers for wings went unanswered until some one invented a noisy foul-smelling toy called a gas-engine and another thought of warping a rickety kite with a piece of wire.

The first mechanical birds were not beautiful in the sense that real birds are beautiful but they possessed the two essentials of human flight, motive power and direction. These two the modern movement is providing for architecture. (*Applause.*)

Chairman La Beaume. Gentlemen of the convention. I am sure you will all agree that Mr. Howe has admirably vindicated some of the prophecies made in my preliminary remarks regarding the decorum with which this debate was to be conducted. This vindication is no source of pride to me, but rather a source of slight discomfiture.

You have heard the soft voice of modern reason as the modernist conceives it, the tactful and tender reference to the classicist, the statements that the classicist requires more sleep than the modernist. It may be true the modernist suffers from insomnia. But I think that it is generally agreed in matters of art, as in other matters of life, that the fact that one man requires more sleep than another in no way mitigates against his essential value, either as a citizen or as an artist. So I call your attention to this point in order that you may not be too swayed by this part of Mr. Howe's paper.

It now becomes my pleasure to introduce another competent speaker, Mr. C. Howard Walker, who will valiantly combat some of the other assertions of Mr. Howe. (*Applause.*)

ADDRESS OF C. HOWARD WALKER

MR. WALKER. When Mr. Butler asked me to write a certain symposium for the benefit partially of the press, I was very ill-disposed to do it because I usually speak extemporaneously.

I was listed to speak for the conservatives. I accepted the impeachment and told Mr. Butler that I intended to write a serious consideration for a serious body of men, and that it might be boresome but I would embroider it.

I received the paper of Mr. Howe's and began to read it, and I concluded to keep on embroidering.

In a meeting in a club in London before the war, a navy club of the British Royal Navy, there were a number of officers who were speculating upon the power of opposition in nations if they attacked them, and the United States came up and one of these officers said, "There isn't a city in the United States that the ships of our navy couldn't easily take. There are no fortifications that are worthwhile. For instance, we could take Philadelphia, New York and Boston."

A little man at the end of the room held up his hand. "I beg your pardon, gentlemen, I am an American. You do not understand Boston. Boston is not a locality, it is a state of mind." (*Laughter.*)

I am from Boston. (*Laughter.*)

A little while ago in this shower of tags, which are the usual thing that are put upon properties by sales manager, I came across words that I hadn't heard before, and which were applied to modernistic work. In France they are beginning to call it contemporary work, a much better definition. Modernism begins to become ancient over night. Of course, it takes some little time for it to get back into a condition of serenity.

One of these words was "significance of form," and it recalled to me what Kipling says, "You needn't take pains to inform us. We knew it some seasons ago."

Another one occurred when I was looking at some very beautiful sculpture, decorative sculpture for architecture, and a gentleman said to me, "Do you think that it has the proper amount of deformation?" I said, "My dear sir, you have given me a word that I have been seeking." (*Laughter.*)

The third one was that modern work was "compelling," but there are various ways of being compelled. One can be compelled by attraction and one can be kicked.

I suppose I am dubbed a traditionalist. I don't know, and I care less. The committee of thirty of us that met in regard to control of work in Washington and Georgetown, in the District of Columbia, appointed by Theodore Roosevelt, were met by him in the White House and addressed, "Your appointment has been objected to by Congress. As you may know, Congress and I sometimes differ. I don't like it. They like it less." (*Laughter.*)

I was once upon a time in a college of mechanical and bridge engineers and spoke to 1,600 boys and the faculty, to whom the cheer leader appealed, "Cheer for him, he's an engineer!" I responded, "Thank God, I'm not," and continued:

"That demands an explanation, but not an apology. You have done the finest work that any set of men have done in regard to utilitarian needs. You have done it more swiftly and better than it has been previously performed. You have made possible the exploitation of this country, and the speed with which emigration has occurred and prosperity has followed.

"You are those who have made it possible, but I want you to answer a question. Have you, in this United States of America, done more than support a load, span a void, and keep extraneous materials out of a hole?"

Technique—materials—function! In 1906, I think it was, there was one of the international conventions of architects which took place in London, and of which I am proud to be a permanent member. Mr. Leatherby, who is an artist and who has made beautiful drawings, arose and said that he thought that every architect ought to spend a year with a mason, a year with an iron worker, a year with a carpenter, and ought to know how to use tools. He ought to know the component parts of each material.

I interpolated, and said, "How many materials are you using?"

He replied, "On the building I have been building, there are seventy-four sub-contractors."

"How much of your technique are you to know, except in general terms, and how much of any of the technique should we know except in general, broad terms?"

One night in my department at the Institute of Technology there was a professor, an electrician, to address the students. Guy Lowell was to introduce him, but was called to New

York and sent an SOS call to me to substitute for him. I arrived late and heard the usual technician's point of view. He was berating my boys because they didn't know about watts and ohms. I held up my hand and said, "Professor, did you ever read 'The Reincarnation of Krishna Mulvaney?'

He said he had.

I said, "You will remember that Terrence told a certain railroad contractor that he was rushing to his fate. I am going to speak after you."

The remark had no effect on the professor.

When I arose, I said:

"You have put yourself, as any man does who takes a limited point of view, in an unfortunate position. You have been the guest of this architectural department, and you have berated them. You, therefore, have been discourteous to your hosts, and you have left it possible for me to deal with you without gloves, and I propose to do so.

"I want you to understand that the architect is the chief marshal, and that all you specialists and technicians may become heads of army posts, but most of you are no more than colonels. It is for you to obey orders, and it is for you to take the general scheme of the architect and give him the meticulous service which you, as specialists, have."

Now, there is no more meticulous service than is demanded by all the things regarding technique, and it is cluttering the ground. We don't see the forest because of the trees.

Art is a plus quantity. A man does not need it to provide food or to live a material life. He can live in a hole in the hills. He can dig him a hole in the ground. In no way does he need art. Skill—yes, and skill leads to art; but in no way does he need art.

Art is a spiritual thing, and not material, and when I hear Mr. Howe say that beauty is a secondary consideration, if he has in mind to sell the greatest birthright that we men who have had art possess, if he has in mind to consider that art is secondary to material considerations and skill and technique, call in Esau—I won't grow that kind of hair. (*Laughter.*)

Architecture is the greatest of the visual arts. Its claims to that distinction are that it is expressed in larger terms, and therefore in larger scale, than the other visual arts, in all three dimensions. This claim, however, in no way affects its quality as an art.

Its second claim is that it is the most comprehensive of the visual arts, affiliating any and all the others. This claim in no way affects its quality as an art.

Its third claim is that it is not an imitative art, being independent of the representation of natural forms, and therefore, like music, an artificial art, based upon fundamental underlying laws of the cosmos, as interpreted by the mind of man. This claim must be substantiated by comprehension of those elemental laws, and as in nature, development in accordance with those laws creates manifest order.

Order lies at the basis of architectural expression, and a conformity to order at once creates satisfactory expression in architecture and in music.

The indication of permanence and stability in architecture is desirable. It is, to use the popular definitions, not a static state of rest, not a dynamic state of movement. It therefore ignores the whirls of star dust, and uses the geometric solids of crystallization. Order of a fundamental character therefore at once appears in architecture, and the law of gravitation causes heavier solids to underlie lighter solids, and the element of composition of the assembling of solids follows, and relative proportions receive attention, and art begins, i.e., the selection and arangement of related factors of definite utilitarian purposes.

Order and design are synonyms. Man begins to design, respecting elemental laws in the process, and, as in nature, the multiple normal development of order creates interest and mental satisfaction, i.e., beauty, and it appears in architecture. Disorder, from violence or explosion, or from disintegration and decay, cancel beauty. Especially is dynamic energy in antagonism to a serene expression in architecture.

Architecture is constructed, and articulated, i.e., built of pieces, and for centuries acknowledged that condition. Its factors were few,—the enclosing wall, the column, the lintel, the beam and the rafter, later the arch and its offspring, the vault and the dome and the hemicycle. The simplest arrangements of these factors constituted the design, i.e., the repetition of identical units, alternation of units, and finally ratios, seldom of more than three units. Design was simple, suited in scale and function to the size of man, and the essential factors of design were present.

Expansion was usually lateral, and therefore stable in appearance. Vertical expansion was confined to towers for observation or for transmitting information by sight or by

sound. To this point architecture was certainly raisonné, and the logical design of its structure was accented by mouldings, by color, and by carving and sculpture, its joints being announced, its interstices enriched.

Different materials, different functions in far separated lands, created from the factors local individual expression, and so-called styles. Each one of these was modern at the time, for a time, and then became a tradition, but all were architecture raisonné for the time, and individual in character locally, but universal in character as to their regard for the elemental laws of statics, and none were carried to excess, for the materials used did not permit excess.

With the elaboration of decoration, orderly within its limitations, pattern appeared upon the surface, and so invaded it that it became an integral part of the large design, and at times wholly invaded it, but most subtle beauties of detail occurred. As nations became closer in their relations, imitation of designs exotic in character were grafted upon local types, and the designs from afar were applied as patterns, as trabeated architecture of the Greek was applied as a pattern upon the arcade of the Renaissance façades. Medievalism, simple at first, finally is clogged by pattern. Naturally, purists arise and architectural formalists and logicians, and finally two opposing forces are at war, the so-called Traditionalist and the so-called Modern, the Conservative and the Radical.

Radical — what folly, absolute and utter folly! I was asked by a set of fellows who were in the English philosophical department in Harvard, to have a talk with them. I said "What do you want me to talk about?" and they replied, "What is an education."

"How much time have you got?"

"Ten days."

"Well, if I can't do it in ten days, I never can do it."

I went that night. There was a good fire and they loaded up my pipe. It was good tobacco and I was very comfortable in a large armchair.

I said, "Men, you have given me a good deal of a contract." But I found it wasn't any at all—it was the simplest thing possible to answer. No matter where you take it up—high finance, arts, sciences or any other thing, it is answered in one word. What is an education? Altruism. That is the whole answer—to find the other man's point of view, to compare it with your own, and find the greatest common divisor. That is what we are doing if we are sane in what we are doing in architecture. It doesn't require a shower of words. It doesn't require an invective.

If certain men have certain ideas which are far different from your ideas, and you both like the things you have, there must be a common ground on which you stand, and that common ground is that on which the whole body can build.

The radical or innovator had little to encourage him, as changes of conditions were gradual. Traditions were founded upon design induced by construction which, during the centuries, had changed but little.

Suddenly, rapidly, and in America, there appeared the elevator and the steel frame in partnership. The exquisite stone structure of Gothic Cathedrals became unnecessary, as did masonry domes, and walls. Architecture logically could have become grillage and glass. Appearance of stability became merely a concession to custom, to tradition.

Therefore in these modernistic things they assume they haven't got tradition behind them when they build their buildings. For heaven's sake, what is the wall? They don't need it. The wall is smeared with tradition.

Building laws, creating at least some order, were now confined to matters of fireproofing upon the one hand, and light and air upon the other. Design, as assisted by the laws of the City of Paris from the time of Louis XIV, was obsolete. Everything was obsolete excepting the possibilities of steel. This, protected by a non-conducting clothing, is the entire stock in trade of the so-called modern tendency in architecture unless some allegiance to tradition is recognized.

The modernist is between two stools. If his architecture is raisonné to the limit, it eschews the arch, the vault, the dome, and can eschew surface, and is not bound by those designating lines of stability, the vertical and horizontal. Disorder is defended by logic, because it is possible, and excess and license is the natural result. It is absurd to negative new possibilities and it is equally absurd to discard past attainments, often new in their time, if they are still of value. Merit is not evinced by chronology.

The hope of reasonableness in architecture raisonné is control of excess. Consider the testimony of the past: religious architecture controlled by universal similarity of function; local expression controlled by local materials and tradition, producing acknowledged styles; heterogeneous adjacent building controlled by laws in regard to height of buildings, and finally our own zoning laws, which by control has

created effective terraced high towers, and saved a harlequinade of shapes.

But there remains the final control of the architect himself, and that is but little if any different from the action of the architect for centuries. He deals with purpose and satisfies it. He erects his structures of materials which form geometric solids, and he studies and controls the arrangement and relation of those solids with orderly design, and he accents and embellishes those solids and surfaces with orderly pattern, creating tone values. Traditional forms are not inimical if they are subordinates and not used in excess.

The decorative moulding is to accent the joints, because otherwise you don't define the structure. Bertram Goodhue, not more than a month before his death, wrote me a letter in which he said that he had almost come to the conclusion that architecture needed very few mouldings, and that it consisted of masses well proportioned with the addition of architectonic sculpture. I wrote him that mouldings were honorable things, but you didn't, of course, want to put five "honorables" before a very insignificant man.

I was shown an admirable mass of terrace building. It had nothing but walls and the windows, and of course if the architect had been logical, his windows wouldn't have been over each other because there was one room which was off center in the plan. There is an idea of balancing cause and effect, and sometimes it is much more important to have the window look right on the outside than have the center of the room on the inside. But if you are going to be consistently raisonné, you are told to have the sincerity of showing everything.

Probably nothing is so little welcomed as the gratuitous forcing of emotions upon an observer, yet architecture has the power of creating aspiration by height, nobility by mass, stability by lateral extension, any one of which can be enhanced by associated detail. But the large emotions, like great themes in music, demand simplicity of treatment, and the details careful association with such treatment.

Dominance only by itself can be crude, details overdone or ineffective. It has been and is characteristic of beginnings that they are incompetent and only reach the fine skill of accomplished art by degrees, and that excess long precedes sanity. Impressionism, Cubism, L'Art Nouveau, each have had expression without manners, courtesies or finesse; each has left a modicum of value, and faded away. So-called modernism is going through the same phases, and it is a significant fact that the best in all these types resembles work of the past.

The impressionists recall Giotto; the cubist resembles Egypt, L'Art Nouveau at times is Greek; i. e., the best in each resembles simple work of the past. It has been reserved for the so-called modernists to be irritated at any resemblance to anything that has calm, and to adore excess in every direction, to be shapeless, crude, eliminated in detail to nothingness, explosive in detail to chaos and to create sensation with the slapstick and the bludgeon. It may change its methods, but when it does it will necessarily have in it traditions of sound previous methods, with which at present it is in arms. It is at present at times infantile, and often callow, and has growing pains. Occasionally it reaches a serious adult stage. Therefore Hope is struggling at the bottom of the open Pandora's box.

Emerson remarked, "Why so hot, little man?" (*Laughter.*)

The whole population—laymen, architects, or anybody else in the world,—doesn't need to have an obelisk explained. They like it. They pay no attention to it if it is a thermometer on a mantlepiece, but when it has a 700-foot base, a pyramid base I should say, why then it is compelling. It is just the same geometric solid, large or small. It is merely impressive by size.

No man has to explain an obelisk. It is a simple solid, as is the cube, the sphere. Then you begin to relate solids. Then you have unity, and you are getting unity in some of the big buildings. Then you begin to deal with the factors that can give you symbolism, emotion, tradition, if you please.

Tradition is a thing that we are proud of, if we have a good one. The tradition of the gibbet we would blot out. And at last you have got to deal with factors just as a juggler deals with a tennis ball, a croquet ball, and a cannon ball, and keep them going and still keep control, and it is for the architect to have that control; and if he limits himself in the control that has two factors instead of three, or one instead of three, he hasn't done a highly developed piece of work. It is the lack of accomplishment, not the mere attitude of mind, that appears in so-called modernistic works. If we are going toward that accomplishment, well and good.

This is a most unfortunate city for the modernist, this City of Washington. It is acknowledged to be one of the most beautiful cities in the world. Do you wish high buildings stuck around, like very handsome aspar-

agus sprouts, all over the city, even if they be handsome ones, some of them floriated very beautifully?

They are the product of the elevator and the steel frame, justifiable in New York and magnificently done in certain parts of Chicago. Some day the law of San Gimignano, which took down its towers, will begin to be applied from economic and aesthetic reasons because of the wrong placing of perhaps the right thing.

What I wish to say is this: As you are going through the City of Washington, consider whether the buildings are good or not. Note the consistency of L'Enfant's idea; go out and see the model in the Library and see what that has produced, and then go back to your offices with the apotheosis of the possibility of no order except the order of utilitarian steel structure. Look at these things and see if you can form anything that will have regard for the whole city, and for the effect of the whole city, that won't have in it the order of traditional simplicity, sobriety, and the gentlemanly beau geste—if nothing else, of consideration for the whole and for your neighbor. (*Applause.*)

Chairman La Beaume. Mr. Walker has well said that the object of this discussion is to reach finally a common ground between the modernists and the traditionalist; to find the core or center upon which we can all stand united.

The difficulty will be great. The committee, I presume, realized the impracticability of treating so vague and involved subject as this in a single session. It welcomes discussion from the floor, however, in order that the whole situation, the whole nebulous and difficult problem before us, may tend toward clarification. We really want to reach some common meeting of minds on this whole subject, and any contributions from the floor will be more than welcomed in the interest of what Mr. Walker has called education.

Mr. John G. Howard. Unfortunately I missed a part of the discussion this morning. When somebody asked me if I would not speak on this subject, I replied that I had little to add to what most of the speakers scheduled were likely to say, as I have always been a modernist myself. This remark was received with a loud laugh, the reason for which may be left to the imagination.

Of course I was brought up in the traditional way—Mr. Walker was one of my first teachers—and I believe, as he does, that beauty is the true objective in architecture as in all the arts, whether we range ourselves among the traditionalists or among the modernists.

Architecture is a language, a means of expression. Our native language runs far back into the past, and we couldn't, if we desired, alienate it from its past. We speak English words, but what is the ancestry of those English words? Many of them are Saxon, some are Grecian, and I dare say a few of them are Egyptian in their origin. Yet it is the English language—a living tongue because it incorporates in itself the new means of expression characteristic of each successive age.

Is not that what we are trying to do in architecture? We can't throw away the way in which we put things together. We can't throw away tradition in any thoroughgoing sense except as we substitute for it something that fits the new case better—something that is indefinable in advance, since it is a thing of the future; a mystery to which we are seeking to give concrete form.

The important thing, it seems to me, is the spirit in which design is produced. The great design is certainly not going to be made in an archaeological frame of mind, even when one is, for special reasons, working more or less stylistically. The great design, the creative design, is the product of an open mind, free from prejudice against either old or new merely because it is either old or new.

Let us use tradition for what it has to offer us, that fits the case, without setting it up as superior merely because it is tradition. When traditional forms no longer fit, and are no longer expressive, find new forms for the new problem. But let beauty be always the criterion of excellence, always the goal. (*Applause.*)

Mr. Harry F. Cunningham. Ordinarily I agree with everything Dr. Walker says. However, when he says that beauty is not necessary to mankind, I disagree. I think it was Plato who said that architecture was not one of the fine arts but a human necessity. I agree with that, and thereby disagree with Dr. Walker.

As one who endeavors to be a disciple of Bertram Goodhue and an admirer of Magonigle and of Ralph Walker, who speaks this afternoon, I believe strongly in the effort to develop a reasonable contemporary architecture. I do not, however, agree in any measure with the effort to be radically "modern."

Nobody ever knew more about tradition than Goodhue did, and nobody was ever more consistently contemporary than he was. You cannot find anything in his Capitol, for instance, that is copied, but you can find in his building an echo of every good period the world ever knew. He was contemporary, but he built up his contemporary qualities on all the traditions of all times.

You can hire a man to span a void, to support a load, or to prevent extraneous matter from falling into a hole, but only a full knowledge of all the culture of all the centuries can make an artist. (*Applause.*)

CHAIRMAN LA BEAUME. Gentlemen, I announced a moment ago that opportunity would be given at this time to anyone who felt it impossible to contain himself further. There will be a continuation, however, of this discussion promptly at two-thirty o'clock, the speakers being Mr. Earl H. Reed, Jr., of Chicago; Mr. Ralph T. Walker of New York and Mr. Everett V. Meeks of New York. We hope to have a full attendance, and we hope to make somt headway along the difficult and stormy path which we have elected ourselves to pursue.

The meeting adjourned at one forty-five o'clock.

The meeting convened at two forty-five o'clock, Chairman La Beaume presiding.

CHAIRMAN LA BEAUME. Will the meeting now come to order? We will now resume this morning's discussion, and we should like to have the concentrated attention of the membership, and a certain amount of acceleration on the part of our authorized and invited speakers, because intimations have come to the chair that the discussion of this morning has aroused sentiments of one kind or other in the breasts of certain uninvited individuals and, of course, we want to give them an opportunity to express their emotions, whatever they may be.

Now, ladies and gentlemen, it is my great pleasure to introduce Mr. Earl H. Reed, Jr., of Chicago, who will resume the discussion and speak from his own and Chicago's point of view.

ADDRESS OF EARL H. REED, JR.

MR. REED. Chicago, at World's Fair time, 1893, presented a scene of extraordinary chaos. How bewildering it must have appeared to the multitudes who came—the overgrown village, sprawling and uncouth, with its miraculous young skyscrapers where the river entered the Lake and to the south on its shore the White City, calm, ordered, coldly classical and alien.

In the light of the years which have elapsed since then, I now see that Chicago was more beautiful by the river where she was herself than when in Columbian guise, and that the Tacoma, the Monadnock and the rest were vital and full of promise for American architecture. That White City, outwardly so lovely, laid upon us the withering hand of dead ages. It brought in its wake a hopeless desire to solve American problems in the forms of Greece, Rome or what-not—a melange of historical reference unparalleled in art history.

To Louis H. Sullivan and his band of the forlorn hope, mostly Midwesterners, belongs by right of devotion and sacrifice to an ideal, the eternal credit for having kept alight the flame of vitality of American architecture in the face of blasts of scorn during the dreary years which followed. I, like the rest, was blinded by the dazzling whiteness of the Fair. Nevertheless, I still hold in memory the imprint made on a childish mind by the glory of the Transportation Building portal. With lovely plaster surfaces painted by the great nonconformist in the colors of the sunset, it was the only structure in that imposing group which was expressively designed for its purpose,—a defiant echo of the great happenings in the streets of the town outside the gates.

Let us pay our respects also to the American engineers, structural and mechanical, of these years before the World War, for whom no task was too difficult. For they, at least, labored harmoniously in rhythm with the times, perfecting a technique far beyond the abilities or the comprhension of the architects of that period.

If the cult of classicism demanded that a seven-foot extension of stone cornice be sustained high above the street, steel means were found and the thing was done. Nor were the mechanics of elevators, lighting, heating, ventilation and sanitation behind in progress. The really great thinkers in architecture were either entirely neglected or given the little things to do by a public which was charmed

by classicism. Truth was overcome and falsity triumphed.

But the peace after the World War, bitterly disappointing in so many ways, at least seems to have cleared clouded visions of men concerned with architecture. The Chicago Tribune competition, cast as a hero in a stupendous melodrama, resulted in the production of a series of designs which have profoundly affected American architecture. Notable among these was Saarinen's second prize project which reaffirmed Sullivan's principles in no uncertain terms. It would be difficult to overestimate the favorable influence of this great competition. Courageous efforts were soon instituted on all sides to attain the goals of vitality and timeliness; emphasis was laid at last upon usefulness, structure and mass, and insipid historical detail was cast aside.

Sullivan ideals of form and function, perhaps, as expressed in the achievements of such men of genius as Frank L. Wright, fired the minds of a numerous group of continental designers sickened by tradition. These men in turn developed a movement now popularly known as modernism and exported it to America under foreign trade-marks. Native and independent influences such as Bertram Goodhue's, difficult to appraise but potent, can not be forgotten in this connection.

Moreover, as one who has had some contact with education, I can testify to the extreme sensibility of students to these new things and to the development of a skill of application by them which has undoubtedly affected contemporary tendencies. The schools have been literally dragged into modernism by the irresistible desires of the younger generation.

The Middle West, and Chicago in particular, with flair for innovation, has reacted to these forces with promptitude and enthusiasm. During the past six years a notable series of buildings has appeared in our streets which have received instant recognition as landmarks in American architecture. Nothing approaching them has been produced there since pre-Columbian Exposition days. I refer, of course, to the work of Holabird and Root, able successors and sons of two of Chicago's eminent architects of that earlier brilliant period.

These suave structures, usually in stone, are carefully studied, comely in appearance and erected with a speed and finished technique which astounds. Their individual style is the result of a combination of design skill with profound knowledge of the lore of architecture. But most essential of all, these buildings are so well planned that they take and hold their places most naturally in the modern economical scene.

The Palmolive, the Board of Trade, the Daily News—just awarded the Chicago Chapter's gold medal; 700 Michigan Avenue, Saks and 333 Michigan Avenue, to name a few only, have, as an eminent Eastern architect remarked awhile back, literally changed the aspect of our city in a short space of time. The boundless energy of Chicago and its inner beauty, so often obscured, have been embodied in these buildings for all to see as has also the American commercial spirit in its finest aspect.

And there are a number of other designers, too, both in Detroit and my own city, who are engaged in the production of vital buildings. Interest in architecture in the Middle West is keen, and a knowing and sympathetic public has been created which not only will approve of but will pay for buildings of advanced type—a hopeful sign of the times.

At the threshold of another World's Fair, this time commemorating a Century of Progress, I am struck by the violence of the contrast offered between it and its predecessor. All concerned, I think, in the design of the Exposition which will mark the brief 100 years of Chicago's life, are directing all their energies to make its forms fully and freely expressive of its purpose without regard to historic style. And another Transport Building, contributed by the Chicago members of the Architectural Commission, is now about to be built which will, in my estimation, be expressively beautiful, of vivid contemporary character, and this time in harmony with the Exposition and the city.

So great is the acceleration of the times and so hopeful is its present spirit, that soon surely it can be said with such crushing truth, that our buildings are most beautiful in this incompleteness.

At the suggestion of Mr. Butler and those representatives of the Institute who have arranged this meeting, I have brought a number of slides which I would now like to show you. You can judge for yourselves whether what I have said is true from your view, or not. (*Applause.*)

Mr. Reed then showed the slides, with explanatory comment, illustrating the course of architectural development in Middle Western cities, chiefly Chicago.

CHAIRMAN LA BEAUME. Ladies and gentlemen, I believe that we may, without offense to either faction, be grateful to Mr. Reed for this contribution of graphic representations of what modernism really means. Seeing is believing, or disbelieving, if I may be permitted by the modernists to modernize an old aphorism. Even the matrimonial agencies recognize the importance of the submission of photographs, and do not depend on mere verbal descriptions of what the candidate's qualities really are.

So I think we ought to be grateful to Mr. Reed, as we shall be grateful to Mr. Walker and Mr. Meeks for any illustration which may make it easier for us to comprehend what is in the minds of the designers of these buildings, and come to our own conclusions as to whether they have been successful or unsuccessful in expressing the yearnings which have prompted the execution of their designs.

It gives me great pleasure at this time to throw the session open for any comments which members may feel impelled to make as a result of this inspiring demonstration of Mr. Reed's. If there are no comments at this time, I shall be pleased to introduce the next speaker, Mr. Ralph T. Walker, of New York. (*Applause.*)

ADDRESS OF RALPH T. WALKER

MR. WALKER. When Butler asked me to give this paper, he rather indicated that I was to be in the position of making myself à Roman Holiday; that I was to consider myself as the gentle lamb led to slaughter.

I want to say in the beginning that I haven't any real formula for modernism. In fact, I can't as clearly express my thoughts on it as Mr. Howe did this morning, and I don't mind saying that I am slightly at variance with him, showing that there is a divergence between some of us who consider ourselves modern, but to my mind we are setting forth on an adventure, the end of which we cannot see. These thoughts may seem confused. I frankly admit, as I said before, that I have no clear vision of the thing itself.

I hesitated whether or not to use the term "modernism" or to use the term "contemporary architecture," but to me one is as good as the other, and as I know that precedent appeals to the architect, there is more precedent for the use of modernism than for the other, for as near as I can find out the term modernism has been used at all times to differentiate the contemporary mode from the historical styles that preceded it. Furthermore, modernism rolls more readily from the tongue and at the same time has a bite to it.

We should remember that a style is known and judged not by its beginnings but by its endings, when the case is closed and a fair judgment can be made. It is then named not by its creators nor by its critics, but by historians in whose hands the verdict must be left. We should also remember that there never has been a standard of measurement devised without chances of having a large percentage of errors.

In endeavoring to indicate something of what I understand by modernism, I am not in any way defending it against those of you to whom the very word is anathema. Naturally there is a group within the profession who are prepared to fight it to the death. Frankly, that does not interest me, for my acceptance and their opposition will neither aid nor prevent its accomplishment, which lies in other hands than our own, and they so far do not feel the necessity of any defense save from the old order which passes.

Now, I will tell a little story. Monday, one of the boys in my office asked me whether he could see me on Wednesday, today. I said, "No, I am going to be in Washington." Very pertly, he said, "What are you doing in Washington?" I said, "Don't you know I am giving a talk down there?" He said, "No, what are you talking about?" I said, "Modernism." He said, "Gosh, are you still talking about that?"

In passing I would offer my sincere respect for the work of those who like Richardson, McKim, White and Goodhue, did really create in the vocabularies of the past. Our architecture would be poorer but for their efforts. But to the pathfinders, those pioneers who sought an understanding of the time and who tried to write an architectural philosophy for its need, I offer my deep gratitude for their courage. They realized that the vocabulary was being enriched and enlarged, that new requirements and new conditions connoted the necessity of a change.

I personally admire, perhaps as much as the next man, because of a thoughtful study of their thought and its accomplishment, the clear, serene, logical beauty that belonged to the Greeks. I, too, admire the vigor and almost brutal effectiveness with which the Romans solved their many problems, and while I am much more interested in the complexities of both Gothic and Oriental art and thought, the suavities of the Renaissance appeal as approaching the sophistication that is and shall be so much a part of our life.

The many changes in architectural fashion that are in evidence since the eighteenth century, when the spirit of Renaissance became attenuated and modern thought emerged to show the form that is prevailing today, displayed to my mind a dissatisfaction, an indication of unrest, a seeking after something more expressive of that thought. When Eastlake picturesqueness followed Greek and Gothic revivals which eventually led, after the Columbian Exposition, to a circus of all the known historical styles, the result necessarily was confusion—a lack of the logical evolution and a dissipation of effort that has made some of us realize that while the world of thought has shown a healthy growth, the only movement that architecture has shown has been one of circles without any definite relation to life about us, except in one important sense which I shall refer to later.

Modern life throughout the world seems to have this in common—that the trend of both the individual and society seems to be toward an advance from feeling to intelligence, from instinct to reason. So it would seem that our art effort, our architecture, must move to a somewhat similar goal. Cultural life is a struggle toward an intellectual understanding of life itself. If we can, then our viewpoint must be one of tolerance and without prejudice, so that the new problems may be given proper consideration in their intellectual relation to the needs that originate them.

This in no way negates a feeling for romance, if romance may be considered the joy of living, the liking for excellent food, fine wine, pleasant sounds, and fine craftsmanship. It is perfectly obvious that a trained intelligence, a wide experience, aids in appreciating such romance. It does preclude, however, the romantic where sentimental appreciation takes the place of the actual. Such, for example, is the appreciation of Rafael's Sistine Madonna, a wretched picture greatly admired sentimentally.

The architect is primarily a designer of buildings, buildings designed to meet human needs of shelter, use or memory. He has first to solve those needs, and secondly to enclose them. It may be heresy to some of you when I say that those two requirements are more important than the attainment of beauty. The spirit of beauty is a full realization of the creator's experience and comes always as an individual expression of life. Beauty can never be imitative, because even if successful, all that is accomplished is a quantitive increase lacking the quality that belongs to that which is imitated. It bears the same relation as reporting bears to literature.

To digress, true culture does not consist in merely knowing well the work of Ictinus, Phidias, Rembrandt and Beethoven, to pick a few well known names, but in more thoroughly understanding what Louis Sullivan thought or what Walter Gropius is doing in architecture; in understanding the sculpture of Mestrovic or the aims of a young sculptor like Freedlander, in comprehending the music of Stravinsky or in acknowledging from our own national viewpoint the compositions of Charles Ives and Carl Ruggles, names unknown to must of you, and in giving the painter the same reason for being that he had formerly. Culture is the appreciation of contemporary and indigenous creation and its relation to life, and when we realize this, we shall actually attain one.

I believe in the architect doing architecture, and not the engineer. The architect should have a more all-around comprehension of the human needs of society, and is not so inclined to be single-minded. It is his broadness which makes possible the expression of the human over the material, for a continuing fallacy is that structure is the reason for architecture.

We have been taught that the plan is the generator of design; that when it is most orderly, it therefore approaches greatness. Actually the human need is the generator which, faultily expressed through lack of understanding of the problem, makes most plans inadequate. The plan breeds order only insofar as the human need is understood and expressed. It is not a matter of abstraction or rhythm, it is not the work of a mathematician, but of a humanist. It is not an object necessarily of beauty in itself. The relation of wall to space have ever changed their proportions and will continue to do so as structural means change.

The plan is provincial in that the human needs of the problem are apt to be more local than universal.

The primary business of architecture is not to establish emotional relationship by means of material, but first enclose and house the body and then to afford escape for the spirit through the mind. It is perfectly obvious that were there no utilitarian and mental need, there would be no architecture.

Its aspiration should be to express space and the lack of enclosure within the enclosing mass. Architecture should not be inert but an active principle, entirely lacking in all sense of the final and the complete, and other than expressing space we should endeavor to express timelessness of the moment for—"a sequence of time presupposes a sequence of space elements through which the eye is to wander from one to the next."

Structure has always been a limitation to man's mental aspirations. The Parthenon and Chartres Cathedral are great not because of the honesty of their construction (in spite of the limitations that were imposed because of structural difficulties), but mostly because they so well express the life and beauty that entered from the life about them. The Towers of Babel of the past have failed in the building not because of God-sent but because of structural confusion. The steel structure removes another of such limitations and helps bring realization closer to the envisioned ideal.

The Parthenon has no relation with life today. We have no need that it expresses. You will say immediately "What of the need of beauty?" I reply that we must seek a beauty that fits our need. And this is where I disagree with Mr. Howe.

I do not feel that we will have a new architecture because we have invented some new material or found new uses for old ones, nor because we have improved old tools and have made wonder-making machines, nor that because of them we must state the problem of architecture as being that of machine, because fundamentally the factors which we attribute to the machine—economy, efficiency and selectiveness—can be as justly attributed to a fine piece of sculpture, a painting, or to literature.

I would like to illustrate a point. While I was in Germany recently, I was shown a picture of the door of a bank vault. It was really a very beautiful piece of machinery. Alongside of it was a sketch of a lighting fixture that was made to look like the exterior mechanism of the door. In other words, it had a wheel, a time clock, and so on and so forth, out of glass. To my idea, that is very fake modernism. I can't see any reason because we use a machine why we must make things look like a machine.

Taking them as machinery factors, they are those of instruments of use which are a small part of the need to be expressed, are wholly physical in their nature, utilitarian in their relationship, and utterly lacking in a sense of architecture. While they condition the building, they do so as has any instrument in the history of man.

Great architecture is at once materially or physically static, and again emotionally and intellectually mobile; static because of the necessarily inert nature of the materials employed in its structure, and mobile because of the time needed for its interest appreciation. Its spirit being human order, its intention being human unity, it is therefore more susceptible to evolution than it is to revolution—to rapid change only as is evident today when its expression lags behind the need or condition developed. The sense of relationship in it is that of human desire, the quantities are those of conception and perception.

The architects of this country have always had a colonial viewpoint. They, rather than engineers, developed the newest form of construction only to clothe it in the rags and tatters of yesterday. They have always been more interested in the past, leaving the prophets of this day that were among them unhonored and unsung, to have their works and thoughts come to us from foreign sources, and again our architects are looking to Germany, France and Holland for that which sprang from our own loins but has now the foreign touch of favor. And if you will look at those pictures that Reed showed you, you will easily realize that most of the modern architecture in Europe today is based on Louis Sullivan and Frank Lloyd Wright.

It so happens that the great advance that we have made is in our industrial buildings, our factories, our warehouses, and our office buildings. Here the problem has been stated again and again, experiment after experiment has kept thought in flux, and the results have at last indicated a future.

Meanwhile the home, with the best plan so far developed, remains cramped into conditions that pertained to dwellings on which there were window taxes. The problem of the exterior has never been solved with the same intelligence as the plan because the question of style has been determining, and architecture,

instead of being indigenous, has had the flavor of Godey's "Lady Book."

Perhaps the great difficulty that is encountered in trying to build for the present is that scholarship is confused with creation.

The architect is not concerned with masterpieces. Probably the greatest hindrance to an indigenous art has been the desire on the part of the artist to compete with the acknowledged works of the masters of the past. It has generally led, with rare exceptions, to imitation. The architect is concerned with native needs that are of the present; he must forget immortality and remember mortality. Perhaps the greatest attempt to create immortality in building was the pyramids, yet consider them today —empty, static, expressing most of all the death of an idea.

When the architect endeavors to recreate the immortality of the past he always fails, and you will readily accede that the Pennsylvania Station in New York City, for instance, can never be as fine in all its parts as its prototypes —the Roman baths. That which in spirit is lost can never be regained, and to my mind the modernists are correct when they consider a grain elevator of more importance than the Roman baths.

Without doubt, over this country spreads, as a tight coverlet, an older group of cultures, inherited, borrowed and lazily adhered to. Through this coverlet it is but barely possible for a younger and more native culture to grow without in some way conforming. The shame is not only in its being so, but that we are prideful of it.

Modernism in Europe is much more in evidence than here in this country. It is not only talked about but it is being done. I am offering this criticism of it with a full realization that any standard of measurement has its human error. It fails, in my estimation, in lack of appreciation of the modern temper.

Modernism in thought is best expressed to me as a question that needs no answer save another question. It means experimentation and rapidly changing viewpoints. The lesson the architect can learn from the automobile, the ship, and the aeroplane is that for those needs there has been no attempt at standardization—that the need was solved before the element of beauty was attained.

The problem of the building is stated for each person who thoughtfully builds one. The natural inertia of most designers makes it the contemporary standard for others because the architect is generally much more interested in yesterdays than in tomorrows, and he would rather be known as a scholar than as a creator. He tends to cramp all needs in to the same standard.

Let us bear in mind that perfection comes from change and not through the fixation of a standard. The fact that architecture is so readily standardized has the tendency to apparently fulfill itself and stultify further thought and progress, and while standards are the result of logic, the statement of the problem will not be the same tomorrow and should therefore change to permit that further experimenting continue.

Europe has exalted the plumber, and the T-square and triangle are rampant. The right angle is the cross of the new European theology of architecture. The European architect is so engrossed with the two dimensions of Euclidian geometry and a theory of structure that he has ceased to produce architecture for human beings.

His guiding star is the engineer,—not the engineer of imagination but one who has replaced the old builders' rule of thumb methods by a rule of textbooks. This is peculiarly German, and the German idea is the European method. The human occupancy and its changing needs and aspects, not being capable of expression in a textbook, is forced to exist as it will or may in structural and intellectual incongruities.

The engineer being until lately almost wholly associated in architecture with the factory in which machines were given precedence over the worker, the machine expression of engineering has become the ideal, so that the house, the office, the hospital, the theatre, must in appearance resemble the factory, or if not the factory, the steamboat.

The new architecture of Europe is a reversal of thought in favor of American physical comfort expressed in a few words—function, maximum of light, hygiene, plain surfaces, genuineness of materials. These words are the credo of the European architect. The time is not far past when these very practical American ideas were scorned as being the death of beauty and culture, the daily bath evidently washing off some of the patina that has been so often confused with beauty.

Architecture should be considered as much from the mental reactions it creates as from the bodily satisfaction it renders. The physical side of architecture is always more readily solved, but no one gives serious thought to mental comfort. The modern architect should be much more a psychologist than an engineer,

for the economies to be arrived at are human and not structural.

One of the mistakes that LeCorbusier and Gropius make is in trying to find an analogy between a means of transportation and the house. It can never be a perfect one in that the means of transportation has always been conceived of as transitory and lacking in permanence. The life of the horse and the ox has been of short span, and the need of replacement has always been considered in their use.

This age-long experience of the temporary character of transportation has colored our modern use of the automobile where it has been carried to the extreme of a yearly replacement. The house, on the contrary, has always been considered as a permanent possession, to be added to or changed but basically fixed. To change this characteristic is going to require a much longer period of time and a much greater revolution in our habits.

The machine, to my mind, is not an invention of Frankenstein, but bears the same relation to our lives as does the old familiar hand tool. It, too, has the same limitations—the limits which the human mind can conceive. It, too, is possible of either great refinement and precision or a brutal austerity, just as willed. Mass production does not bear as much relation to the machine as it does to the more relatively homogenous demands of larger populations.

There has been mass production of a relative sort under the handicraft eras. Mass production is quantity production of one article for a demand. It does not necessarily mean standardization. Henry Ford learned one lesson of mass production and, then it is reported, spent $125,000,000 at one time to learn another—that both the standards of comfort and apearance change and keep changing. The one remarkable thing about the mass production under modern conditions is not fixation but flexibility.

W. R. Wilenski in his book, "The Modern Movement in Art," says:

"I am convinced that all the most intelligent artists of western Europe in recent centuries have been tormented by this search for a justification of their work and a criterion of its value; and that almost all such artists have attempted to solve the problem by some consciously held idea of art; or, in other words, that in place of art justified by service to religion, they have sought to evolve an art justified by service to an idea of art itself."

In other words, art for art's sake, or again, art entirely divorced from all human needs. This of course leads to abstraction, and the modern architects of Europe, apparently disturbed by this very lack of apparent justification noted in the artists, also sought the abstract, and we have Oud of Holland making this statement:

"Architecture today knows nothing of terseness such as is realized in the rhythm and balanced composition of mutually related and interdependent parts in which the changing of even the smallest detail is followed by a destruction of balance, ... Under the stress of circumstances, and through the broadening of the aesthetic outlook, a self-formative type of architecture is at last becoming possible, an architecture which makes no use of the other arts, but which in its constructive functionalism attains beauty."

Nothing, you will note, of the people who are the tenants to be. What of their manners and their mode of living—prisoners in cell blocks glaringly lacking in privacy, creatures of concrete tricked by geometry and a false view of the machine? Architecture as abstract as a theory of Einstein! Oud falls, as most of you do, into the error that concrete and glass make architecture; that if you use more concrete and bigger sheets of plate glass, you will achieve a new architecture, just as the Japanese schoolboys' ideal achieves a much more monumental architecture by adding more Greek Doric columns and more and more steps.

The European architect is also having a physical reaction from the proverbial bad taste of the aristocracy. His problems being social housing and monetary economy, he has set up an intellectual basis, mostly without human philosophy for his design, for as I mentioned, physical comfort has obtained to a degree that excludes all else.

Throughout all the new European architecture there is running a standardized expression, a standardization which is to my mind fake modernism, as the modern mind, which should be the controlling factor in design is, if anything, despite specialization, more diversified in its interests than this architecture would suggest. Contrary to most critical thought, standardization and the machine are not synonymous. Witness the village life of Europe throughout the ages.

It would seem perfectly obvious in this age that that which is most readily standardized or crystallized in thought carries within it the germ of its own decay. In fact, I sensed that

some of the German architects believe that some new expression must be found or else their modern movement will become more stagnant in ideas than it has.

The great danger from any crystallized school of thought is that it is a blight upon creative effort. We are fortunate in emerging from just such a blight which swept over the western world with the Renaissance, when imitation of classical thought became the ideal and creative effort ceased as a force.

The sorrowful thing to me is that with the influx of European books the profession here, about the time the European architects appreciate their uselessness, will start imitating this architectural vocabulary, with just as little true understanding as the European architect took over the American factory and the ideas of Frank Lloyd Wright.

The problem of the new age, one not only of social understanding but of imagination, not only of making people physically comfortable but mentally happy, will still be over the heads of most of the architectural profession.

I offer these thoughts, confused as they may be, for my great hope is that for modern architecture here may be found no real formula, there may develop no true school of thought; that each man may find his own brand, so to speak; that experimentation will continue in architecture as it is doing in other branches of thought. Certainly the experiments in modernism that most appeal to me are those which exist outside the formal schools.

It will be noticed that I have not referred to modern detail or its absence, to windows placed about corners, to any of the vocabulary that has crystallized into a precedent. I personally cannot see any real gain to be made in creative thought by merely substituting one precedent for another, one set of details for another; if that is all modern architecture is to be, in my opinion it will die.

But the great factor in architecture at present, whether we like it or not, is that some experimentation is taking place, and in that respect a gas pipe exalted from the areaway is more important than the Greek Doric order. What this age needs is the architect who sees his problem in relation to the present, who sees it creatively, and who can be scholarly within the limits of his own time. Then once more it will bear relation to that definition of Wotten's, "Well building consists of commodity, firmness and delight." (*Applause.*)

Chairman La Beaume. Ladies and gentlemen, I believe we progress. I believe that in time our ideas may come to a gratifying and restful condition of clarification. The contributions which have been made this afternoon and this morning are each helpful in its own way, and I do believe that in the end we shall converge toward a point of common understanding.

It becomes now the pleasure of the Chairman to introduce the next speaker, Dean Meeks, of New Haven. (*Applause.*)

ADDRESS OF EVERETT V. MEEKS

Dean Meeks. It is naturally with a very real feeling of hesitation that one whose major effort is given to teaching appears before this convention of practising professionals to talk about architectural design and thus venture to discuss what seems almost the most vital element of their professional life. But, after all, the students of today are the architects of tomorrow, and it is about the architecture of tomorrow that our discussion this afternoon is hingeing.

The very term "modernistic" suggests a lack of conviction; but I, for one, am fully convinced that there is a definite rationalized development in architectural forms taking place, leading to a true style in architecture, expressive not only of contemporary materials, methods of construction and function, but reflecting as well modern life, modern ideals and particularly latter-day conceptions of beauty of form.

The entire world of art today is facing the grave problem of what laymen, critics and artists alike are going to do about the contemporary movement in art. We architects are therefore forced to choose the attitude we are to assume, the path we are to follow, through the mazes of the multitudinous present-day isms of one nature or another. What, in other words, are we going to do about the tendency, as we see it becoming apparent, to design along modernistic lines? The immediate answer to this would seem to be of a negative nature. We are not going to stop it. Because in the first place we cannot, and in the second place, should we try, we should immediately find ourselves forfeiting the respect of eager, creative, progressive,

young artistic minds; particularly if we pretend to shut our eyes to it. Or we can shut our eyes to modernism in architecture and say, in this field of human expression, and in this alone, let us acknowledge ourselves defeated and continue to turn to the past and in our architectural designing slavishly copy from the styles, even if each, in its own respective period, bore a peculiar aad definite expression of the then contemporary life and thought.

So there exists an attitude in the profession and among critics toward style as it applies to present-day design so complicated that not only must it puzzle the layman, perhaps even disgust him, but what is even worse, completely disorient him. A study of the history of architecture shows us how style has developed consistently and in orderly fashion throughout the ages, expressing on the one hand the various phases of contemporary l,ife and on the other the orderly and progressive contemporary methods of construction and materials at hand. A logical evolution from the dawn of civilization up to the middle of the eighteenth century, each successive period designing in tacitly and universally accepted contemporary style.

And then we find creeping in a new idea. The idea of style variation first sought through deliberate copying of the antique. Antiquarianism, chinoiserie, the return to the academic —sporadically Horace Walpole, the Society of the Dilletanti, Stuart and Revett, the Brothers Adam and with them a series of investigations into the various styles of the past. Thus the beginning of what we now call archaeology and an attitude in matters artistic which was to grow like a weed and to find full flower in the 19th and 20th century style revivals, all for the sake of establishing the principle of variety in design, thus entirely offsetting the very philosophy of style and sounding the knell of anything like true and uniform style development.

Of course there were powerful other factors to help in the wreck of logical and uniform style growth. Socially the first and most terrific blow was struck in the French Revolution and the complete and world-wide revision of life that followed in its wake over the entire civilized world. Scientifically the coup-de-grace was delivered by the extraordinary development of machinery, affecting architectural style in two ways, firstly by the growing substitution of machine works for craftsmanship and secondly by the development of printing and photographic reproduction together with the parallel development of communication and transportation; enabling documents of all the styles to be easily reproduced and easily and fatally disseminated.

It is really surprising that it took practically all of the first fifty years in the 19th century to complete the work of wrecking style development. And it was during these fifty years of successive groping revivals that the principle of novelty in design, which I have just noted, was affirmed and established. And this was to continue to bear its bitter fruit when, at the end of the 19th century, we were to emerge again from the resulting artistic chaos and try to re-establish architecture as an art.

What therefore, were the architects of yesterday facing? What, alas! are they facing today? They were facing a complete break-up of contemporary style, and today they are facing a choice of paths. Who can blame them if they tend in increasing numbers to choose the path that leads forward, even if over stony ground and broken country?

For today we enjoy the paradox of three possible schools of design. A certain proportion of contemporary architects have individually and deliberately chosen from the catalogue of the past a single style in which to work. May I be permitted to class these as forming the One Style School. Richardson and his neo-Romanesque is an outstanding example. Choosing one style to work in develops experts, but it may,—alas, it has,— led to inappropriate design. Some of the Richardsonesque buildings of Richardson's followers, for instance. We have just torn down two in New Haven.

In directly contrary manner has grown up the second of the modern schools, which perhaps I may be permitted to call the All Styles School; composed of architects designing to order in any and all of the styles. The Eclectics, perhaps the greatest of the modern groups in numbers, if not in performance. Think of the same man being so lacking in conviction as to be ready to design at command a Gothic, Jacobean, Louis Sixteenth, or Colonial structure!

And in the third place we have the school of designers composed of independent thinkers who are tired of what they consider the inappropriatenesses of the first group, and of the numberless mediocrities of the second, who feel the necessity of a true contemporaneous style expression and are convinced that modern work should reflect modern life, modern times, and modern materials and construction. The unfortunate Louis Sullivan was the prophet of

these and from time to time new exponents arise; Frank Lloyd Wright, and now recently such men as George Howe, Ralph Walker, Raymond Hood and Holabird and Root in this country, the younger group in Paris, Ostberg in Sweden and Saarinen formerly of Finland.

Is it at all to be wondered at that it is the work of this latter type of designer which makes an immediate and extraordinary appeal, particularly to the younger creative American architects? Those who follow the work of our architectural students of today know well the influence of this latter school of new design. Under its banner more and more of our better student designers are enrolling. And an interesting and important element in this movement is the encouragement they are receiving from the profession. Time and again juries of distinguished architects meet to judge student work. The best of this design, as it exemplifies new combinations of form and material, is almost invariably premiated. Thus the student attacks the next problem encouraged and reinforced to work in the newer way. And look at the recent awards of the League and Institute medals.

The duty that faces architects and critics is not to try and stamp out such a logical return to fundamental principles of design, which after all developed and produced the best characteristic work of the best periods respectively of the past, but to try to understand and direct it.

Two phases of such understanding and direction immediately suggest and impress themselves. In the first place no great generally accepted style ever broke directly with the past. Each has been an evolution out of the style immediately preceding. This was true even of the Renaissance. Our young revolutionists must realize that style is a development, and that a new style is not going to spring full blown from the head of any architectural Zeus. For their consolation and conviction they should recognize the almost startling evidences of modernity in many of even the most conservative of our recent buildings.

Our creative architects must know the past, therefore, to know from what style material they are to develop, just as surely as they must know and understand, in their true relations, modern materials and construction. Some one has said that it takes imagination to write history. If this is true, the converse is more so. Creative art is founded on experience. One of the greatest problems of today is to find and establish a true relation between archaeology and modern architectural design. A clinging to either extreme leads into an impasse; of anachronism on the one hand, of anarchy on the other. In the second place it should be continually borne in mind that the outstanding characteristics of the great style exemplars in the history of architecture were not only their clear reflection of contemporary life, but their even clearer expression of contemporary building materials and methods.

What are the essentially modern materials and how do they differ from those of the past, we must ask ourselves. Outstanding are steel, reinforced concrete, glass, and now the newer non-corrosive metals. Our laws require us to cover and protect the steel, except on the interior, so that this is still out of the running as an important exterior surface material. And on the other hand, masonry still remains about the best weather resister we have. So that the modern problem seems to be to modify masonry forms to fit our system of masonry veneer, abandoning forms which are derived from considerations of masonry as a structural material, and deriving forms which shall artistically express the articulated steel or reinforced concrete skeleton; to use, in all its possibilities, glass, and to employ decoratively the newer metals such as aluminum and stainless steel.

In expressing modern construction the newer style has a greater opportunity. Skeleton frame structures are approaching the climax of their development. As yet however they have been designed, in this country, along strictly utilitarian lines; almost exclusively on the column and lintel basis. Abroad architects are experimenting further along new structural lines, particularly in France and Germany. Let us be patient with some of the grotesqueness of form as it develops in these initial stages, recalling the cumbersomeness of archaistic Greek work and how it resulted finally in the glories of the Periclean age. And the same is true of reinforced concrete. We are pouring it still in imitation of stone masonry. In France and Germany they are seeking newer forms, as witness the great dirigible shed at Orly, and some of the exhibition buildings at Breslau, through the cumbersomeness of which are glimmering embryonic new forms which should permit of growth and development into new architectural elements of character and beauty.

The trouble with some of the modernists is that certain exponents of latter day design, out of protest against the ill-advised, inartistic, illogical application of historical style, have broken away too far. Perhaps we pay too much attention to them. Nevertheless, what are some of these vagaries—perhaps one might better say downright morbidities—

which have resulted—as the pendulum has swung to the other extreme? Time permits mention of perhaps only two; and these seem to me to be the two outstanding fallacies of a certain phase of the modernistic philosophy, if we may call it that.

The first of these, and perhaps the most pernicious, I suggest as the search for modernity—read difference—through the expression of the ugly. It may be treading on dangerous ground to suggest that art has as one of its fundamentals the expression of beauty. Surely in architecture, however, the criterion of beauty has been a true one. The buildings of the past owe their principal architectural quality, in practically every instance, to the fact that they are beautiful. "Well," says one type of modern designer (subconsciously of course—God forbid that I should suggest this as a principle actually avowed by him and his school)—"I am going to be modern. To be modern is to differ from what has gone before. The architecture—to confine it to architecture—the great architecture of the past has almost invariably possessed the quality of beauty. I shall make mine ugly, then it will be different from the past and thus be intensely modern." I believe it is this potent, if subconscious, fallacy which is responsible for the greater part of what we find inexplicably repulsive in much so-called modernistic work, especially abroad.

The second fallacy may be found, particularly and more prevalently in Europe, in a certain inverted attitude toward machinery. It seems one of the fundamentals of life that we should not for a moment let go the idea that machinery is the servant of man, not his master. And yet there is quite a group, almost a school of young designers, which is trying to tell us that we must go to machinery and let it dictate our newer forms. This idea, when applied, has influenced modern architecture, and modern drama, with surprising results. Not so long ago many of us saw and heard the confusion and din of a ballet written and performed on the theory that the modern age has created a relentless "Frankenstein" which has grown to dominate, and therefore, should determine, the development of art. I believe it to be a thoroughly morbid inversion of function. Is it not fair to assume that it is going to be through the limitless possibilities of machinery, not as our master, but as our servant, that we are going to achieve the future masterpieces of modern architecture? The same attitude can lead us to believe that modern methods of construction are to open vistas of monumental beauty which we must do our utmost to strive to meet aesthetically and architecturally; but not mechanistically. Le Corbusier, much admired by many students and critics of architecture, has developed the theory that we should take our architectural forms from the steamship, the motorcar and the aeroplane, as being true expressions of the modern age. The fallacy lies in his failing to recognize the fact that these favorite examples cited by him are true expressions of motion above all, and that the idea of motion is the very antithesis of the idea of architectural structure.

Above all there is one element that the ultra-progressive should bear in mind. Little is to be gained by the conscious effort toward tour-de-force. Bluntly architectural "stunts" do not create architectural style. To indulge in them is only one degree less intelligent than consciously to design ugliness. Stunt and skill are dangerously close, as well as pretense and imagination. But stunt and pretense produce one thing, skill and imagination another. The surest test is the aesthetic one.

Above all let us modern architects avoid like poison the pitter-patter theories and philosophy of certain modernists in the pictorial and decorative arts. Let us not fool ourselves. A form is not fine because it has never been used before. The chances are that for that very reason it is poor, having probably been tried already and discarded. A form may be fine however in spite of the fact it has never been used before because it has arisen out of newer materials and methods. Not only do we need originality and invention to progress. We all need sane judgment and adherence to aesthetic standards.

Nor let us be inclined to accept as gospel the aesthetic reactions of the child as one school of modernists would have us do. The school of the naive and crude pretends to use the child's comprehension to judge and gauge modern pictorial plastic and graphic art in particular. As well discard Shakespeare, Bach, Dürer and substitute Oliver Optic, Reginald de Koven and Palmer Cox and call them the truest expression of the representative arts because a child immediately understood and appreciated them.

What is to be the fundamental philosophy of the design of the future? Careful study and criticism of the art of the past brings out and reaffirms certain cardinal principles through every step in architectural art. Architecture, the most formal, the most exact of the arts, has owed its very continuity to the unswerving

observance of such principles; and these have carried through all the styles.

It seems possible, therefore, in trying to lay down a foundation for designers upon which to rear a true structure of modern style that we can let the matter of style, as such, take care of itself; that true style is the almost automatic reflection of contemporary life, materials and construction. True modern style therefore must use and express these materials and structural methods, using forms from the past, perhaps, but modifying them to meet present day conditions. We are doing it all the time. Where are the cornices of yesterday? Where are the window architraves of a decade ago? We use stone as a veneer; frankly now, no longer coursing it to look structural. And so on. A newer design is developing before our eyes, if we but see it and welcome it, and do not on the one hand continue to commit the anachronism of applying the archaeological test to the modern structure; nor on the other attempt or let ourselves be fooled into playing tricks through a boyish non-conformist attitude that an older generation would recognize as naughty.

Both programs find themselves antagonistic to true considerations of sane aesthetics. Basic and fundamental criticism of architectural design is ever indicated. Judging the architects' work, may we not therefore lay aside style considerations and require first that the design shall show a building unified and harmonious in form, in good proportion and proper scale throughout? These are universal criteria, independent of style. And may we not as well ask that the design be conceived in a truly structural manner, the materials used and expressed frankly and not in imitation of obsolete forms? And today—perhaps herein lies true modernity—may we not require our designers to produce buildings which, while retaining true architectural elements, shall express their function, look their part and thus have character?

If, without copying or borrowing from the classic, mediaeval or renaissance styles, the architect produces good design which shall fulfill these principles and have these qualities, who shall gainsay him, who shall force him to select a country and period in European history and require him to conform in style to it, for his great structure to go up in a great city of a new world founded long afterward! No one of us, and if in addition to the above qualities and attributes the artist's design is beautiful—and in the final analysis it must be, to justify itself as architecture—then I believe the architectural designer is justified in his modernism, and, insofar as he uses or creates new forms, is developing style in its truest sense.

I have brought a series of lantern slides which I hope will illustrate at least certain tendencies toward true modernism in architectural design. I tried to persuade Mr. La Beaume to omit the slides, but he says they should be run through. So with your permission I shall do so rather rapidly. After all, the slides have been selected as illustrating the few points I have tried to make, and therefore will speak for themselves.

(Slide)

INTERIOR OF BIBLIOTHEQUE STE. GENEVIEVE, PARIS

Nothing new under the sun. In fact, we have not yet caught up in our interior design with this design of LaBrouste executed in 1850. All of you, of course, will recognize the interior of the Bibliotheque Ste. Genevieve up on the Pantheon hill, where LaBrouste attempted to take the newer material and consciously design architectural forms which would be expressive of it. I think no one will question the success of this essentially beautiful building created by the hand of perhaps the greatest of the Neo-Grec artists.

(Slide)

READING ROOM, BIBLIOTHEQUE NATIONALE, PARIS

The French are wonderful in following up. They follow up a new motif in architecture, adopt it, and thus make it a precedent. So when it came time to construct the great reading room of the great governmental library, the Bibliotheque Nationale, they took the keynote set by LaBrouste in the Bibliotheque Ste. Genevieve, and through the experience of a later period created this most effective, and I think even to the test of modernity, very handsome reading room.

(Slide)

RESTAURANT, RUE DU COLISEE, PARIS

And then see what the French are up to now. Mr. Walker, of course, put his finger right on the spot. Gentlemen, that is supposed to be a restaurant, but it took me a long time to discover it. I finally found a table. You can see a table over here on the left, set with what looks like a big grapefruit, and on the right we see tables placed around

in what otherwise we would think the engine room of a great steamship. Now if Le Corbusier claims that this is the trend and style in architecture I, for one, do not believe it.

(Slide)

TRAIN CONCOURSE, PENNSYLVANIA STATION, NEW YORK

In this country, in the hands of one of the greatest firms that America has produced, at their most conservative period when they were adapting, as Mr. Walker suggested, a Roman bath and calling it a railway station, outside of the great waiting room there arose a new problem which the Roman bath had not solved; and so McKim, Meade and White, with great skill, took the new material, steel, and developed it into what I believe you will agree with me are essentially handsome architectural forms.

(Slide)

PERSPECTIVE VIEW OF SKELETON FRAME CONSTRUCTION

Of course the real problem in steel is our skeleton frame. That is the way it looks to us when we stand below and look up—a lot of vertical lines with some secondary horizontal lines. The fabric of the structure is essentially that row of slender vertical columns of steel. What can we do with such a new form in construction to express it?

(Slide)

TRANSPORTATION BUILDING, CLEVELAND

And the answer is found in its simplest and baldest terms in a building like this. It is a building which happens to be standing in Cleveland, which is frank above all. It seems to me, however, that something further in the organizing of form can be done to create a unified design.

(Slide)

BLAIR BUILDING, BROAD STREET, NEW YORK

The answer was found way back in the nineties by Thomas Hastings in the design of the Blair Building on Broad Street in New York, the first building, I am told, which suggested assembled vertical window superposition, that is, the great vertical slit, and the covered column between. So out of date is this building now in spite of its being a move forward in the development of architectural form that it is about to be torn down to make way for a building very much higher.

(Slide)

CRYSTAL PALACE, LONDON

Glass. Whatever we may think of the Crystal Palace and the Crystal Palace Exhibition of 1853,—and, by the way, if sometime you are tired of wandering through the mazes of present-day architectural design and want a good laugh, pick up the catalog which is entitled "The Masterpieces of the Crystal Palace Exhibition of 1853." I am sorry I didn't bring illustrations with me to show to what depths taste had descended in the middle of the Victorian epoch in England. Meanwhile, unconsciously, a tremendous step was taken forward in the building which nobody particularly noticed except its being a mass of glass; the building which they constructed to house the exhibits, a veritable step forward in developing a combination of metal and glass minus masonry.

(Slide)

RAILWAY STATION, ANTWERP

And here and there occasionally an effort, not always successful, is made to combine glass and steel. We have here a building, the exact date of which I do not know, but I take it to be somewhere around 1900, a railway station in Antwerp, where the attempt has been made to leave expressive the steel construction and adorn it with the same material. There are some extremely handsome forms. We may say that some of these forms are useless; for instance, a form like that (pointing), evidently applied, not functioning in the construction, really hanging from the big truss above. We cannot scold that kind of thing unless we discard completely Gothic architecture. Think what the Gothic architects did with a very ingenious device for splitting up the windows into panels to hold the stained glass, what we call tracery. It was good-looking. So they said, "We shall use it everywhere."

The same principle has been attempted in other ways to use structural forms to create decoration, a very real move forward, with which we in America have done very little. In France, in a good many of their railroad stations and in railroad architecture and bridge architecture, they have gone much further. I think perhaps the two great exceptions in this country are two bridges, the bridge over Hellgate at New York, which was done by collaboration between an architect, Henry Hornbostel, and an engineer, and the bridge in Philadelphia from Camden, which was done by

collaboration between an architect, Paul Cret, and an engineer.

(Slide)

SKETCH FOR A LOFT BUILDING IN GLASS, GERMANY

That is what we might do. Meanwhile, we are letting the Germans do it to see whether such design is going to develop new forms. This is the kind of thing that my students want to do all the time, and some of them do do it. I tell them it is all wrong, and then they send in their projects to the Beaux Arts Institute of Design, where the most respected, staid, conservative members of the profession sit on the jury, or rather stand about and judge the projects and premiate that kind of thing. Of course the student is encouraged to go forward.

(Slide)

AUTOMOBILE FACTORY, DETROIT

Concrete. Who said that concrete need be ugly? A factory by Albert Kahn in Detroit. I do not believe it cost that automobile concern two per cent more to make their factory beautiful than if it had been built in the regular ugly panel system which we only too well know.

(Slide)

PAVILION AT DECORATIVE ARTS EXPOSITION, PARIS, 1925

But I think after all just as we have to acknowledge the French pioneers in the structural use of reinforced concrete, so I think we shall have to acknowledge them pioneers now in the experimental stylistic use of concrete—and they can do beautiful things.

Here was one of the pavilions at the Exposition of Decorative Arts in 1925 where an attempt was made to make use of the plastic nature of concrete. It is true it is done somewhat in the stone form, but where are the moldings, where are the architraves, where are the cornices—I was going to say where are the columns, but the columns are still feebly asserting their right to remain in an architectural composition.

(Slide)

HANGAR AT ORLY, FRANCE

That is the kind of thing, however, that stimulates the designer toward newer form. He sees the great dirigible that has to be housed in its hangar. He has a curve more or less determined, which he continues down to the ground in a beautiful, simple form. He splits his building up into slices so that it can be poured progressively. Thus we have the new material determining the beginning of new style.

(Slide)

RUE MALLET-STEVENS, PARIS

We wonder about Mallet Stevens, Le Corbusier and Lurcar, and some of their contemporaries. Let us not forget that the French were, and are, faced with a terrible financial problem. They must house people and they must build their buildings just as cheaply as they can. The answer is this kind of thing, an economical basis for the development of style.

(Slide)

VILLA NEAR PARIS

Le Corbusier says that after all, the great structure is the steamship. He forgets that the steamship is performing its function only when it is moving through the ocean. We know how delicately concrete can be poured if properly reinforced. It must cost a lot, however, to create a steamship railing such as this, and I can't help feeling that one might wonder, if one sat behind that railing, presumably in a deck chair, whether the "boat was going to rock" a little bit, whether the building was absolutely stable. I think that is a fair criticism. I do not mean to poke fun, but I do think you cannot help feeling that such is the case.

(Slide)

WORKMEN'S DWELLING, PARIS

Then we come to the inside of some of these buildings. Here I find malice. I do not see any necessity whatsoever for putting a great bridge across the middle of a room, nothing except to be different, and that is the kind of thing we must look out for and be impartial about in our criticism.

(Slide)

INTERIOR OF A MODERNISTIC HOUSE, PARIS

Who wants to sleep in a reinforced concrete bed? Look at those angles! You would not want to jump out of bed quickly at night. Of course it is absurd, and that is what we must recognize and thus not take so seriously some of these "naughty" performances of the young Frenchmen.

(Slide)

PROPOSED VOTIVE CHURCH, PARIS

This is the sad result. A new saint has been canonized in France and by and large throughout the entire French nation she has called forth the most marvelous veneration; a great figure to all of us throughout our boyhood and girlhood as we grew up—Jeanne d'Arc. That is the votive church that they have planned in her honor. It is not built, it should not be built, and the reason it should not be built is that they can do handsome things.

(Slide)

PAVILION OF MANUFACTORY OF SEVRES, PARIS EXPOSITION, 1925

Here we have concrete poured, it is true, for an exhibition that is temporary, but these forms are lovely. They of course were suggested originally by stone. We are not going to be able to get away from it. Wood suggested the form of the Doric Order executed in stone. Why should not, therefore, stone suggest the forms that reinforced concrete can attain? That is the way style is going to develop. These things are handsome exterior decoration, and a simple arrangement of forms. The French can do fine things, significant things.

(Slide)

ENTRANCE OF PARIS EXPOSITION OF DECORATIVE ARTS, 1925

Here is an attempt to get a new form to express the "climax." I think it does not quite express an entrance. It happens to have been the main entrance to the Exposition of Decorative Arts in 1925. At least there is stateliness, dignity, unity and proportion. So we do not have to put up with vagaries such as I tried to bring out a moment ago.

(Slide)

WERTHEIM SHOP, BERLIN

And then we turn to Germany and we look back on what seems an almost Gothic building. Most of us remember when the Wertheim store was put up in Berlin, and how terribly modernistic we thought that building was. I begin to feel how very strictly we applied the archaeological test back around 1900. That building was a step forward. Of course one sees that some of the inspiration came from Gothic architecture, but inspiration should come from the past, and then be welded slowly, surely, always beautifully, into a new style.

(Slide)

EINSTEIN TOWER, POTSDAM

The war is past and the fourth dimension has been discovered. This is a monument to the fourth dimension, a monument to Einstein, the Einstein Observatory in Potsdam, a conscious but a groping and a cumbersome effort to express the Einstein idea; and through it there gleams an ugliness and a hideousness that we must look out for.

(Slide)

RESTAURANT, COLOGNE

In Cologne; the place where you go to get a good dinner. The principle is good. The structure is planned so as to get as many window seats as possible looking over the river. But is it architectural, has it beauty, unity, proportion, and scale? Is it agreeable and handsome? It is expressive of construction and that is all it is. There is where Mr. Walker is right. It is expressing construction alone.

MR. R. T. WALKER: May I disagree with you on that? I think this is one of the handsomest of the modern buildings in Germany and it wasn't due to the fine meals and the fine Rhine wine either.

MR. MEEKS: I suspected that, Mr. Walker. I was just getting ready to say it. Mr. Walker and I, who agree on so many things, disagree on this particular building.

(Slide)

EXTERIOR OF EXHIBITION BUILDING, BRESLAU

Then we come to some of the temporary buildings where of course it is possible to try experiments. The exhibition buildings at Breslau, built in concrete, where the possibilities of the reinforced concrete column have been realized just as in Colonial times the possibilities of attaining the proportion of the column were realized when it was executed in wood. Isn't that also the seed of new style form?

(Slide)

INTERIOR OF ABOVE

Then we go to the interior of the auditorium beyond. I hesitate to quote Mr. Walker, but here again is construction without adornment. I do not think it is style, but I think that out of it is coming style.

(Slide)

EXHIBITION BUILDING, ESSEN

And here at Essen is another exhibition building of concrete, with a real feeling of composition, a definite feeling of composed mass, and a return to the principle of rhythm, which is perhaps the most fascinating of all throughout the history of architecture. Nothing new at all.

(Slide)

SUMMIT HOUSE, LONDON

England itself, conservative England, has yielded to the simplification of form, which has arisen out of the new problem. So we find in Summit House a rather handsome use of vertical form, with the spandrel between decorated in a very simple structural manner.

(Slide)

ACCEPTED DESIGN, SHAKESPEARE THEATRE, STRATFORD-ON-AVON

And then it comes to the place, the one place to my mind in all of England where tradition should have been respected. Here is the winning competition drawing for the Shakespeare Theatre at Stratford-on-Avon. Now here, I think, is modernism going too far. Of course this is a personal opinion again. That design was selected by a competent jury which chose from a great number of designs. I happened to see a couple of the designs before they went in, either one of which personally—and the personal element comes in—I would much have preferred.

(Slide)

IDEAL HOUSE, LONDON

On the other hand, there are some very lovely new buildings going up in England. I say with some pride that a number of them, some of the most important ones, are designed by American architects, and this is one that Mr. Hood did in collaboration with an English architect, for the American Radiator Company off Regent Street, right off of where Regent Street crosses Oxford Street. I consider it a very real solution of the modern structure, dark marble, almost black, used as a veneer, ornament replacing the cornice, still a yielding—of course we are in conservative London—to the shadow which has been so fascinating under the cornice, but the cornice reduced to its simplest terms. Of course when Mr. Hood gets doing buildings for the Radiator Company in America—this happens of course to antedate the English building—he gets a chance to get away from the cornice and to let mass and silhouette take the place of that rigid shadow-casting feature.

(Slide)

AMERICAN RADIATOR BUILDING, NEW YORK

And we have this Radiator Building in New York.

(Slide)

DESIGN FOR TRIBUNE BUILDING, CHICAGO

Mr. Goodhue has been referred to by practically every speaker today. No one who is interested in the possible development of a modern style can help but feel that a catastrophe came over architecture when Mr. Goodhue was carried away. He went through all the phases of stylism. Goodhue's design, in collaboration with Cram, for St. Thomas's Church in New York is one of the finest pieces of strictly stylistic work that I know of. But as he approached the end, almost foretelling that he was not going to live very long, he reached out toward an expression of contemporary architecture. He went into the competition for the Chicago Tribune Building, and realizing almost ahead of time the possibilities for a modernistic development in Chicago he designed this splendid building. Chicago was not quite ready for modernism of that kind, or it may be that there were other determining factors in the minds of the jury, so that Mr. Goodhue did not even receive one of the prizes; he received honorable mention, however, and I think he produced one of the finest of the early modernistic tall building designs.

(Slide)

STATE CAPITOL, LINCOLN, NEBRASKA

I was going to show one slide of Mr. Goodhue's work because, of course, all of us know it and know this State Capitol. Think how Goodhue had to fight against precedent in doing a State Capitol of that kind! Ordinarily you have a rotunda in the middle, connecting links, the library in the back, and one wing for your House of Representatives and one wing for your Senate, or whatever those particular bodies happen to be called. "Not at all," said Goodhue, "I am going to design a great monument out on the plains which shall rise up and be seen for miles around," and he laid out that splendid horizontal sub-structure with the fine tower rising from it. A modernist. I wish I had brought the detail of that glorious central motif where the sculpture, with due respect to Mr. Howard Walker, seems to grow naturally out of the stone.

(Slide)

AMERICAN TELEPHONE BUILDING, NEW YORK

This we all know is that superb building for the American Telephone Company in New York City, which won, and rightly, in spite of previous somewhat conservative awards, the medal of the Architectural League.

MR. HOWARD WALKER. I said he did that at first, but he didn't later.

DEAN MEEKS. Who could tell what Mr. Goodhue would have done? You and I are both free to guess what he would have done if he had lived.

MR. HOWARD WALKER. He would have done some superb things.

MR. MEEKS. I think so.

MR. HOWARD WALKER. The finest thing he ever did was the National Science Building here in Washington.

DEAN MEEKS. It is one of the finest, but in my opinion it is not the finest.

Is this telephone building classed as modernism, or is it not? I will not say it is stylistic because after all we can not judge our own period. We must wait until we have passed on, and perhaps then if we "achieve our reward" we shall know what people think of what we are doing. The best we can do here below is to strive to do the finest things that we know how and as expressive of our day as possible, and I congratulate Mr. Walker and the associates of his firm on a building of this type. (*Applause.*)

(Slide)

IRVING TRUST COMPANY, NEW YORK

And I congratulate them on this building which is not yet finished. Perhaps Mr. Walker —we are dealing in personalities today—and his associates won't agree with me when I tell them that it harks back to a fundamental principle of design, "fluting." One of the chief attractions of the great Doric column was that lovely succession of flat elliptical channels about the column giving a reaccent of the vertical Now this new style has been called the "vertical style." There are numerous reasons why we should call it that, and Mr. Walker in his design in this building has reaffirmed, in form as well as in the superposition of windows, the verticality, the lovely verticality that a tremendously high building has.

(Slide)

IMAGINARY BUILDING BY HUGH FERRIS

We go beyond the present into the future. Hugh Ferris has done some prophetic drawings and here is one of them, an imaginary structure of the future. What is it? Concrete and glass or steel or aluminum, or what? It looks as if it will be a long time before we are going to do that kind of thing.

(Slide)

SKETCH FOR CORNELL MEDICAL GROUP

And then we have a firm which has done a lot of very conservative and a great deal of stylistic work, Coolidge, Shelley, Bulfinch and Abbott, conceiving this splendid mass for the new New York Hospital—Cornell Medical group in New York City. That is not an imaginary design. That is an actual study for a group which it is hoped to construct.

(Slide)

AIRPLANE VIEW OVER FORTY-SECOND STREET, NEW YORK

And that is what we are faced with, that kind of thing. Here we have the New York Central building, Graybar building, Chrysler building, and the Lincoln building, all in one group. Who is going to solve that problem as we see it there with column and entablature, vault and buttress? (*Applause.*)

CHAIRMAN LA BEAUME. Gentlemen, it may be presumptuous on the part of the chairman to attempt at this stage of the proceedings to sum up any of the conclusions that have been forced upon him, and perhaps on others, by these very illuminating papers, but if you will indulge me just a moment I will read some lines inspired at breakfast and inscribed "To a Pattern on a Waffle":

What inscription cuneiform 'graves your surface brown and warm,
Message mystic and inscrutable, wrought by iron mould immutable,
Does each tiny hieroglyphic spell some rapture beatific
Or proclaim some torment awful, succulent and sizzling waffle?
Toothsome, tantalizing riddle, does the geometric griddle
Hold your secret in its metal, how you'll taste and how you'll settle?
I am eager to translate you—Will I grieve because I ate you?

Neither Sanscrit, Choctaw, Greek, holds a flavor more unique.

* * * * * * * * * * * *

This great truth you do impart, fundamental rule of art,
Meaning doesn't really matter, if there's virtue in the batter.

CHAIRMAN LA BEAUME. Ladies and Gentlemen, our program is concluded so far as our written announcements are concerned, but yesterday a paper was read by a delegate to the meeting of the Associated Schools of Architecture which in the opinion of the Chairman would greatly profit the delegates present to hear reread. If it is your pleasure to hear it, the author of that paper has remained to read it. Its reading will take but a few moments, I think, and it is a continuation of this modernistic discussion. I am sincerely hopeful that the convention may hear it either today, if it is your pleasure, or at some other opportune time. Mr. Killam, will you come forward, please? (*Applause.*)

ADDRESS OF CHARLES W. KILLAM

MR. KILLAM. No one man knows enough to discuss this subject in all its aspects. We can each try to contribute from our particular training, experience, and reflection.

No one solution can fit our diversified problems; a residence, a theatre façade, a shoe shop front, an office building, an apartment house, a church, a memorial on the Lake Front in Chicago or in the Charles River Basin in Boston. Some of these structures are by their nature ephemeral, others are to be long-lived. Some have an environment without any claim to respect, others cannot in decency disregard their environment.

The interest of the so-called modernist in this country has been largely a matter of superficial appearance, not in the structural use of new materials to give utility, speed and economy. The so-called modernist is experimenting with the horizontal windows, the black or white bricks, the directional textures, the shiny metals, the unusual woods, and the so-different ornament, all largely superficial things. He has continued to use brick and stone, although sometimes torturing them into forms they had escaped in the past.

The student in the architectural school assumes that all façades are to be of concrete or of glass and that all corners must be built of curved glass. Entrances no longer have horizontal lintels or curved arches; they must be mysteriously and precariously spanned by stone cut into unnatural forms or bricks contorted into wiggly courses. He also assumes that all ceilings are to be stepped in horizontal and vertical planes, a cross-section dating back to the stone-corbelled ceilings of the Egyptians and Assyrians but having no excuse in modern structural methods except cheapness if done in ignoble metal lath and plaster.

No matter what the change in fashion for the overcoat of our steel or concrete skeletons, we have continued to use masonry as the material of the overcoat. We had to use masonry when walls were bearing walls, and when buildings lasted for more than a generation, but it is one of the most inefficient materials to use with the skeleton construction of today. In the case of cut stone, our labor of today is much more highly paid than in the past, although, on the other hand, machinery has greatly reduced the amount of manual labor as far as stone-cutting is concerned, particularly if the designer will acknowledge the twentieth century and see what he can do with machinery. At best, however, brick, stone, and reinforced concrete are extravagant materials to use to keep out weather and fire and to support light floor loads. Should we not try new materials, particularly for our commercial buildings and for our short-lived buildings?

Obviously we should not limit the usefulness or increase the cost of our modern buildings by clinging to the materials or forms of the past. But we can welcome the new masses of our modern buildings and the new materials and methods now available without being so sure about some of the new ornaments. We may admit that a score of columns, a hundred modillions, or a thousand eggs and darts, all alike, leave us cold.

On the other hand it is difficult to get much enjoyment from the modern glorification of the triangle, the groove, the steam radiator, the directional surface treatment, all copied from the savage's whittled paddle or war club, or the curled up fern-like vegetation copied from prehistoric fossils. After all, ornamentation in color or relief or both, from plant life, animal life, and human life, relate us to a past whose

beauties we still admire and from which we do not need to break entirely. A square yard of carving executed by a sculptor will give more individuality to a building than an acre of triangles or grooves.

Modern construction has added steel and reinforced concrete to the masonry pier, lintel, and arch of the past. These new materials allow slenderness in columns. They have much greater resistance to transverse bending than stone, hence shallow beams can be used over longer spans than is possible with stone. They can be used so that the thrust of vaults or domes of large spans may be eliminated or resisted so that thick abutting walls are not required.

The possibility of slender piers has affected our window sizes and shapes. Windows in vertical walls were an unimportant element in the public buildings of the Greeks and Romans. In Gothic cathedrals, as in our modern factories, the wall became a series of windows between piers which were, in general, made just large enough to carry their loads. The vault thrust in the cathedral delivered an oblique load to the buttress, thus requiring much heavier masonry than would have been needed for vertical loads.

After the Gothic days, architecture reverted to a construction of walls with relatively small openings. The early New England mill building had large wall areas and small windows. The New England textile mill of heavy timber, slow-burning construction, developed in the latter part of the last century, gave us again an architecture of large windows between small piers, the piers being no larger than necessary to carry the loads. The spandrels were thin and often recessed from the outside face of the piers.

The early high office buildings had brick bearing walls. Their designers, although with the already developed mill building before them, adhered to the old scheme of walls with holes punched in them. They did not at first emphasize the piers by setting the spandrels back. Later the iron or steel columns in the outer walls, and still later the complete skeleton construction, allowed the pier to become a mere fire and weather protection for the column, and the spandrel wall a mere enclosure extending from window head to window sill.

As the buildings became higher, the designers chose to accent the verticality by setting back the spandrel walls, perhaps using a different material, and thus throwing the narrow vertical piers into greater prominence, as though the buildings were built primarily for the columns instead of for the floors. They wasted much valuable rentable space by setting the spandrel wall a foot or more back from the face of the piers.

Now we are swinging round to horizontal lines as though the building were built entirely for the windows and had no vertical structural members, even at the corners. Architects have designed the overemphasized vertical buildings and the overemphasized horizontal buildings within a few months and within a few blocks of each other.

Suppose a real modernist dropped into the United States today to analyze our problems and to examine our solutions. Let us consider particularly the commercial building and still more particularly the high building of skeleton construction and of relatively short profitable life. The modernist would see that we have materials in infinite variety, their fitness to carry loads, to resist fire, to resist passage of heat, cold, and sound, their waterproofness, and all other physical characteristics definitely known and comparable one with the other.

Great organizations of producers, with engineers and inventors ceaselessly at work, have in their minds, or even in being, new materials or combinations of materials awaiting only the acceptance by architects or the revision of building laws to put them into use. The modernist would observe the congestion of our narrow streets with loads of brick, stone, concrete, and plaster for new buildings. He would see these heavy materials hoisted hundreds of feet in the air and see the brick and stone set by slow and high priced labor with very little aid from machinery.

The owner demands speed in the construction so that his investment can commence to earn because he is going to tear the building down in thirty years. We stick to slow methods of hand assemblage at the job instead of taking advantage of the rapidity and economy of maximum preparation in factories and a minimum of manual labor at the job.

Our masonry walls get dirty, effloresce and disintegrate on the surface. They drop pieces of stone and terra cotta to the street. They are ill-fitted to keep out moisture, and we spend money and space on flashings, damp-proofings, and furrings, often in vain. In thirty years they are obsolescent and we tear them down and congest our streets again hauling them to the dumps because brick, stone, concrete, and plaster have so little salvage value.

We are continually extending the use of the machine in the preparation of materials, but

machinery helps us little in setting brick or stone in place. We have specialization among the contractors, each trade demanding that it be free to complete its work without waiting for any other trade. We have labor unions deciding or fighting as to which trade shall do which work.

As soon as the modernist had become acquainted with these facts, he would wonder why we went to Greece or Rome or the Middle Ages or the Renaissance or to the Mayas for our forms, materials, and methods. Still more would he wonder why we go to France, Germany, Holland or to Scandinavian countries of today.

If he watched buildings in course of construction he would see strange things. He would see long stone lintels supported by concealed steel or reinforced concrete beams with the stone columns put in later when they arrived from Europe. He would see columns with shafts of marble but with plaster capitals colored to imitate bronze supporting a plaster cornice painted to imitate quartered oak, the columns being tucked in on top of a floor which had to be strengthened to hold them and beneath another floor which did not need their support.

He would see eight-inch rolled steel H-columns supporting floors and roofs and backing up Ionic stone columns four and a half feet in diameter which supported an entablature. The great stone columns shut out light and made the interior area about four feet narrower than it needed to be. He would see similar steel columns supporting floors and roofs but concealed by Gothic buttresses three feet wide and projecting four feet from a thick wall, the buttresses abutting nothing. He would note that these columns and buttresses were put together, slowly, stone by stone, by high priced manual labor.

He would see a great technical school, dedicated to study of the most modern sciences, housed in reinforced concrete buildings overcoated in limestone brought a thousand miles, designed in a style two thousand years old and three thousand miles away from its home. Within a few miles he would see well designed factories far better fitted to house such a school. At the same time in the same cities he would see cathedrals, collegiate buildings, and private residences being built in the old manner with steel and reinforced concrete sometimes left out as sacrilegious and uncraftsmanlike modernisms.

He would see vault thrusts resisted by the most extravagant of masonry members, a buttress resisting oblique forces. He would see malformed wooden trusses which would exert a thrust on the walls if they were true wooden trusses but would find that here, where buttresses are needed, they are not relied upon, concealed steel resisting the deformation of the truss.

He would see brick sand-blasted to make it look old, and stone and wood hand hewn after the machine saws and planers had left it smooth. He would see sway-back roofs, bricks laid crooked to make them look "interesting," moss-covered slates imitated in burnt clay, asbestos, or tin.

He would observe that the people who worshipped in these cathedrals, studied in these colleges, or lived in these houses, were not the least bit mediaeval. They travelled in motor cars, motor boats, and airplanes whose forms and materials had been revolutionized in a decade and there was no attempt to imitate mellow age in the finish of any of them.

If he watched the alteration of a building he would see interior bearing partitions of masonry removed to give wider open spaces, masonry exterior piers replaced by a different kind of masonry, reinforced concrete construction noisily and expensively cut through, with no salvage value, plaster removed in a cloud of dust, floor construction patched with heavy and dripping reinforced concrete.

If he watched a town in a hurricane, conflagration, flood, or earthquake he would see buildings built of bricks, stones, or blocks disintegrating into their primary units, killing the population in the process.

If he watched the destruction of a building by fire he would see expensive cut stone spall in moderate heat.

If he watched the destruction of a building to make way for a new one, he would see expensive cut stone dropped into a chute to a truck but the brick taken away to give that "interesting" texture to a new house in the country. He would see reinforced concrete floors nosily and dustily smashed up by skull breakers and torch, the ruins being without salvage value. He would notice that wooden and steel beams, and metal in general, seemed to have some salvage value.

He would note that skeleton construction allows arcading the sidewalks as shown in the Barclay-Vesey building of the New York Telephone Co., but he would find that we had made very little use of this possibility for street widening.

We have used, and in some cases abused, a few of these modern materials and methods.

We have used reinforced concrete properly for foundations. We have used it honestly and decoratively in some ceilings where the structural coffers, joists or slabs have been designed to show and have been colored, a welcome relief from metal lath and plaster imitations.

We have used reinforced concrete improperly in façades which were made up of vertically reinforced piers but which we have rusticated horizontally. We have formed it expensively into arches which were acting structurally as beams. We have cast it into blocks which imitate quarry face stone. In bridges the architect is afraid to admit the slenderness of the reinforced concrete barrel and conceals it with a stone arch ring three times as thick or with a concrete face rusticated into false voussoirs.

Reinforced concrete has been pushed by organizations of cement manufacturers and by contractors whose financial interests were dependent upon that one material. From being either a floor material or a wall material, it has become a structural whole whose backers insist that economy and convenience require that they be allowed to do all of their work without reliance upon other trades, a reinforced concrete skeleton being recommended even for the lowest buildings, although the masonry walls may be amply thick to support the floors.

We have built floors of reinforced concrete which weighed as much or more than the live loads which they support. We make our beams, girders, columns, and foundations twice as strong as the live loads require because of this over heavy dead load. The reinforced concrete building is difficult to alter and expensive to tear down. Should we not take a fresh look at our needs and our building materials of today and see if we cannot use lighter, cheaper materials and materials with a larger salvage value?

Let us now try to face some of our problems as a thorough-going modernist would. For years we have used sheet metal to cover roofs, bay windows, spandrels, and shop fronts, as well as for the entire walls covering steel frames in garages and industrial buildings. Why not build our high buildings and our buildings which are to be obsolescent in thirty years with a steel frame with no exterior masonry whatever? The steel can be fireproofed, perhaps with less thickness than at present, and then the whole outside can be covered with bronze, copper, aluminum, stainless steel, nickel silver or other metals, shop fabricated as much as possible, light in weight, weather tight, fire-resisting, requiring no painting or cleaning, resisting earthquakes and gales, having high salvage value.

Back of this sheet metal, insulation can be provided by light weight, incombustible materials. Plastering could be omitted altogether except for fireproofing. Such thin walls would save large areas of rentable floor space. That is, let us keep out dampness with the best materials to keep out dampness and then insulate with the best materials to keep out heat and cold and noise, in both cases disregarding the customs of a past which did not have our modern materials.

Do we need to fireproof steel beams, girders, and columns in all buildings with one to four inches of tile or concrete or outside columns with eight inches of brick or stone? At the times of our great conflagrations—Chicago, Boston, Baltimore, San Francisco, and smaller ones elsewhere—a few more or less fire-resisting buildings were surrounded by great numbers of combustible buildings with combustible contents. This condition is now changed in parts of many cities.

Large areas of our cities are now built up with fire-resisting office buildings, apartment houses, hotels, banks, railroad stations, theaters, and some other buildings with no great amount of combustible contents, with metal partitions, doors, windows, furniture, and incombustible finished floors. In such cases why is it necessary to fireproof such building with the same heavy floor slabs and column protection as for storehouses or manufacturing buildings filled with combustible contents and surrounded by wooden buildings?

We have for longer or shorter periods used roof constructions much lighter and less fire-resisting than our first class floor construction. Why not use these lighter types for floor construction such as pressed steel joists, trussed joists, pressed steel floor plates, thin concrete, or gypsum floor and ceiling slabs? We do not need great weight of masonry material for either fireproofing or insulation if we can only get over our prejudices and the limitations of our building laws and pick out each material to do its particular job without regard to what was used ten years ago.

The New York City zoning ordinance of 1916 resurrected the setback buildings of the Chaldeans and they have spread like wildfire to cities where they were needed and to cities where they were not needed but which wanted to look like New York. Setbacks to fit modern needs would be entirely impracticable with the wall bearing buildings with brick arch or

wooden floor construction of a century ago. The steel or reinforced skeleton makes them entirely possible even if not economical.

It still remains true, however, that even with the skeleton construction, the rectangular prism is the most economical frame to construct. Some of these buildings have few setbacks, each one a full bay so that the successive faces are on column lines as in the Lincoln Building or the Daily News Building in New York. Others have more numerous setbacks, many of them of less than a bay, and thus start new wall columns, not on the lower columns but on heavy girders, thereby increasing the steel weight as well as complicating its design, shop-work, and erection.

Some of these buildings set back a full unit of the plan, for instance, the width of a typical office. Others are more complicated both in cross-section and in plan. They copy the silhouette of a Gothic tower which set back four inches by thinning the wall but the sky-scraper is ten times as high as the tower and the setback becomes forty inches and therefore cannot be gained by thinning a twelve-inch curtain wall.

Then the various faces are played with, battered and bent, hollowed and curved, as though a thousand-foot high building were a ten-inch high wedding cake. It isn't; it is a combination of twelve-foot high stories enclosed in masonry walls supported at each floor on steel beams which would like to run straight from column to column. Such a building is not moulded by hand in plastic clay nor carved in soap. Its surfaces are masonry walls preferably vertical and preferably flat. It has certain rights to dignified treatment which the wedding cake and the soap have not.

If the plan of an office building or an apartment house is economically arranged in one story, it is difficult to believe that it is equally well planned in six or eight other stories of varying areas and shapes. A setback terrace may be a real advantage in an apartment house. Is it an advantage or disadvantage in an office building or hotel? Has anyone analyzed the problem and found out whether the setback buildings can be as economically planned, constructed, and operated as the earlier rectangular prisms, or is the owner paying a high price for the architect's good time?

In conclusion, if architects are to dominate the design of buildings, must they not be modern in more than mere surface treatment? Must they not use modern materials, methods, and economies, not reluctantly but enthusiastically?

Chairman La Beaume. Ladies and Gentlemen, I think you will all agree you have heard a lot and seen a little, and I think that this would be an opportune time to adjourn this meeting so that you might retire to digest and assimilate the thoughts that have been conveyed to you.

ARCHITECT'S CULTURE

ADDRESS OF LEICESTER B. HOLLAND

Evening Session—May 22, 1930.

My text for this evening is from the first chapter of the first book of architecture, according to Marcus Vitruvius Pollio, sections 1 to 3:

"The architect should be equipped with knowledge of many branches of study and varied kinds of learning, for it is by his judgment that all work done by the other arts is put to test. This knowledge is the child of practice and theory. Practice is the continuous and regular exercise of employment where manual work is done with any necessary material, according to the design of a drawing. Theory, on the other hand, is the ability to demonstrate and explain the productions of dexterity on the principles of proportion.

"It follows, therefore, that architects who have aimed at acquiring manual skill without scholarship have never been able to reach a position of authority to correspond to their pains, while those who relied only upon theories and scholarship were obviously hunting the shadow, not the substance. But those who have a thorough knowledge of both, like men armed at all points, have the sooner attained their object and carried authority with them.

"In all matters, but particularly in architecture, there are these two points: the thing signified, and that which gives it its significance. That which is signified is the subject of which

we may be speaking; and that which gives significance is a demonstration on scientific principles.

"It appears, then, that one who professes himself an architect should be well versed in both directions. He ought to be both naturally gifted and amenable to instruction. Neither natural ability without instruction nor instruction without natural ability can make the perfect artist. Let him be educated, skilful with the pencil, instructed in geometry, know much history, have followed the philosophers with attention, understand music, have some knowledge of medicine, know the opinions of the jurists, and be acquainted with astronomy and the theory of the heavens."

To judge by Vitruvius, architecture, two thousand years ago, was no simpler matter than it is today. Then, as now, the architect had to possess natural ability, he had to undergo long years of practice, and in addition, had merely to acquire the sum total of human knowledge.

The only change seems to be that the sum total of human knowledge was slightly different then than now. I would not venture to say that it was less than now, but only different; for while our minds and books are full of many things the Augustans did not know, we may be sure their minds were full of just as much that has not come down to us. We might not call it knowledge today, but they did, and it filled their brains—brains not a whit inferior to ours—as tight as any latter-day sciences can pack our own. They were not burdened with our complicated steel construction, true, but then they did not have our logarithms or our slide rules either. Their problems may have been simpler but their tools were cruder. Try to divide MCMXII by LXIV and then imagine cubing the Colosseum in Roman numerals.

The constant fact remains that from before the Pyramids, the perfect architect has had to know all there is to know, or has had to know about it all, "for it is by his judgment," says Vitruvius, "that all work done by the other arts is put to test."

Does the demand sound impossible? We turn out hundreds of young architects each year. Our aim, whatever the product may actually be, is to make them perfect architects, and our schools hold to the ideal that their graduates should be at least initiates, if not masters, of all knowledge.

How can it be done? First let us see how we try to do it. Being efficient, we first analyze our studies. Practice and Theory were Vitruvius' divisions. We go a little further and subdivide Practice into design and freehand drawing in the school, with office work in summer. Of Theory we make two groups, one to include construction and allied subjects, and another group called "cultural," which is supposed to cover everything in the field of human knowledge not constantly met with in an architect's office.

Having so analyzed our material, we say, "We architects are artists, we can teach design ourselves; we are also practical men, and can teach construction, or get the engineers to help us in a pinch. As for the cultural subjects, we will pass the buck. The colleges of liberal arts know everything; let them teach it all, and preferably before the student comes to us, so that each man can be stamped and guaranteed before delivery as knowing everything but architecture. Our consciences will then be clear."

But it is in the nature of bucks that passing them does not destroy them. If we look closely we can see that the B. A.'s who enter the architectural schools do not know everything but architecture; and if we reproach the colleges with this, they will reply, "We never received nor accepted your buck; we make no pretense whatever that our graduates know everything but architecture. A liberal education is very much outmoded.

"We use the group system now. Early in their courses, our students choose some group in which to do their serious work, science or languages, or history, or English, or mathematics, and we assure you we make them stick quite closely to their groups. If they went gallivanting all over the field of knowledge, where would their specialties be? Surely you wouldn't want a man without a specialty in this day and nation?"

We can hardly blame the colleges. After all, it is not their special business to prepare young men to study architecture. Prospective architects form a small proportion of their student body, and, so far as I know, there is no other profession that pretends to ask, as preliminary training for its practitioners, the sum total of human knowledge.

Nevertheless, we suffer in the result, and we are conscious of it. I hear relatively little criticism of the teaching of the purely architectural subjects in the better architectural schools. One school may teach design better than another while the other may be superior at construction, and a third produce more able archaeologists, but somewhere each technical subject is being excellently taught.

Where is the graduate, however, who feels his general education to be all that he would wish? Where the school whose graduates "know much

history, have followed the philosophers with attention, understand music," and so forth? If architects are to be cultured men, and if the colleges do not provide the culture which they need, then it is clearly up to the architectural schools to supply the remedy; to formulate ideals of what the broad culture of an architect should be, and then see how this culture may be had.

That it can be had, I do not for a moment doubt. Vitruvius never doubted the possibility of his ideal, and though he realized that, to others, it might seem preposterous, he thought he knew a method to achieve it. I read from the twelfth section of the same first chapter of his first book:

"Perhaps to the inexperienced it will seem a marvel that human nature can comprehend such a great number of studies and keep them in the memory. Still, the observation that all studies have a common bond of union and intercourse with one another will lead to the belief that this can easily be realized. For a liberal education forms, as it were, a single body made up of these members. Those, therefore, who from tender years receive instruction in the various forms of learning, recognize the same stamp on all the arts, and an intercourse between all studies, and so they more readily comprehend them all."

In other words, a liberal education of wide and general scope is only possible if it be unified by some general pattern, or, to use another simile, the circumference of learning must focus in some definite center, or, to use still another, a complicated plan can only be given unity by clear and simple circulation.

If this be true, then we may assume that the education of the architect is not so universal as it should be, simply because it is too diffuse.

The history of our college education supports this paradox. A century ago the student who was graduated with a reasonable grade from one of our better colleges might be said to have had a liberal education. He was a cultured man, an intellectual light in his community. To-day we cannot say as much. Most who have considered the matter will admit this, but the reasons given for it will be various.

Some will say it is because we do not require Latin and Greek, some will say it is because we make too much of athletics, others that the field of knowledge has become so vast it is impossible to cover it, some that we are too intent on subjects that will pay, and others will put it down to the fact that we are no longer one hundred per cent pure dolichocephalic Nords.

For myself, I hold none of these reasons to be sound, and advance the theory that the trouble with our courses in the liberal arts is that they are much less specialized than they used to be.

Our colleges, when they were founded, were really technical training schools; their fundamental purpose was to prepare young men for the ministry. Latin and Greek, of course, would be taught, not just for culture but as tools of the young man's trade; Hebrew would have some importance, but modern languages very little. Theology and philosophy would be necessary, also history and above all, English and public speaking, for the man who wrote and delivered sermons every week was both a professional writer and an orator.

Mathematics, on the other hand, was not important; science almost harmful, for much of it smacked of heresy. An education which thus laid the greatest stress on writing and on speaking was as useful for the lawyer or the gentleman in public life as for the clergyman, but there was no attempt to cater to the future merchant or physician. As for the architect, he got his learning in the carpenter's shop.

Gradually there came a change. The ministry ceased to dominate the colleges. Successful men in many walks of life, not college-bred, wished their sons to study science and modern languages and even economics. First, these subjects were elective. Soon they became obligatory in order that each should have a taste of all the knowledge in the world.

The result is intellectual indigestion. Only a few of the subjects each student takes are really assimilated and give cultural nourishment. The rest, at best, pass rapidly through his mental system without affecting him, but if his mind lacks the toughness to withstand such gluttony, he will pay the penalty with cramps and nausea. In the end, his interests and his outlook are therefore so much more meagre than were those of his great-great-grandfather, who took the technical training for the ministry.

No, it is not lack of Greek and Latin that makes the average college course today less liberal than it was; the courses given cover quite as much ground as formerly, but they fail to register because they are not focused.

There are, of course, as many possible intellectual foci as there are human interests. Find out a subject that interests a man deeply enough for him to consider it a hobby, let him track it through the universe, wherever its traces may be found, and he will be a cultured gentleman and a scholar before he knows it.

I know a scientist, distinguished in his calling, who devotes his life to biological investigation. Problems of growth and body changes and questions of genetics occupy his working hours. For his studies he uses rats. There are generations of them in his laboratories. But his study of the rats goes far beyond his laboratory. He has traced rat genealogy away back into the east, and he has bred rats in the Dry Tortugas.

The rat has become his hobby and his friend. He has searched out indefatigably every rodent fact and fancy that rumor brought to him. His net has covered all fields of knowledge and all the world.

Rats naturally roused the doctor's interest in the history of cats, so, though there were no rats in ancient Greece and Rome, he set to studying the household pets of antiquity to learn just how and why and when the cat left Egypt for the northern Mediterranean.

I have spoken a good deal about culture tonight. Perhaps I should define the word as I understand it. But definitions are not easy. Gildersleeve, the great American classicist of the last generation, once said that culture was the sum of things a gentleman had forgotten; a phrase too witty to be profound, but with a truthful flavor all the same.

Culture is not a native gift like intelligence or shrewdness. It is acquired, like experience. But it is not experience, for almost all old men have that, yet many are uncultured. It is an acquisition of the mind, and so, a sort of knowledge, but it is distinct from mental hoarding, sheer erudition, or memory. Culture is not the technical knowledge one uses in his daily trade, nor is it a matter of original discovery. It is not to be measured in degrees and scholarship. It makes no propaganda in the market place.

To me it seems that culture is the friendly knowledge that a man has gained.

As we go through life, we all make many human contacts; there are our business associates, the men with whom we work, by whose help we gain our bread. And those of us who are lucky have our friends. Our friends are our friends not because they are of any known use or pride to us, but because we like their company, we are at home with them. They are not essential to our life, but they make our life worth living; without them success is vanity.

So it is with knowledge. Certain things we have to know to do our work, some things we may boast of knowing though they are no help to us. And then, there are the things that make the mental life worth while; that make our thoughts companionable. We ask no service of them, but, like friendships, they strengthen our hearts; we can rely on them, and sometimes, unexpectedly, they give most grateful aid. This, I should say, is culture; like friendship, it is very personal.

It has often been said that among the most lasting benefits of college life are the friendships a young man forms. And by this is meant, not only that contacts may be made which will be of value in later business years, nor simply that many acquaintances will be formed and an opportunity offered to judge different types of men —both certainly advantages, but that, also, some of these acquaintances will become the fellows of the young man's heart for life.

The same is true of intellectual college life. The vocational subjects a student masters serve his business life, whether he really cares for them or no; the varied acquaintances with many fields of knowledge, which some college courses foster, help to anticipate the vague schematic knowledge of the current intellectual world, which active life will bring him in the long run.

Ascertain the real interest of a young man's mind, show him how much of the thought of the world belongs to his own mental fellowship, and he will be friends with the sum total of human knowledge. This is to "recognize the same stamp on all the arts and an intercourse between all studies", Vitruvius' key to universal learning. The stamp which must be recognized is the interest of the individual. And so, while culture may be universal in its scope, it may be approached by an infinity of paths, each one leading from the individual, and short of perfection, still showing traces of its origin.

How can we awaken the interest of the budding architect in the product of all the thoughts of all the world? The answer is simple: through architecture. How often have you heard that architecture is the reflection of the life of man? It is the crystallization, at any time, of the culture of that time and place, the persistent husk of all men thought and all they did. Through the study of architecture of the past, one is led inevitably to an intimacy with all societies, philosophies, religions and arts. It is the gateway to human memories, to dreams and to achievements.

Perhaps you think that this is only archaeology, the study of what is dead, while life is of the present; that it is for the present and the future that we build; the present and the future that we should know.

Our architecture is of the present, true, modern or moderistic or modernesque, but it is, at that, only the latest phase in a continuous development which reaches back to the first hut of boughs, just as our civilization, our science, and our thoughts mark only the latest station on a curve of growth reaching out of the infinite past.

"Do you remember," says one of the characters of Anatole France, "the reflection of Auguste Comte, 'Humanity is composed of the dead and the living. The dead are much the more numerous.' Most assuredly the dead are the more numerous. By the vastness and importance of their works, they are the more powerful. It is they who rule; we who obey.

"Our masters lie beneath these stones; here the legislator who framed the law that governs me today, the architect who built my house, the priest who fathered the illusions that still disturb our souls, the orator who won us to his will even before our birth. Here are all the makers of all our knowledge, true and false, of our wisdom and of our folly. They are the uncompromising commanders whom no one disobeys. In them is strength, continuity, duration. What is a generation of the living compared with the innumerable generations of the dead? What is our one day's will before the will of a thousand centuries?"

The curve of life, I say, reaches from infinity to infinity; he who would know the future, must know the equation of the curve, and how can a curve be determined by just one point?

Ever since we have had formal schools of architecture, it has been the practice to start the students with a study of the classic orders. It used to be professed that only in the perfection of proportions laid down by Vitruvius and Vignola was architectural salvation to be found.

Perhaps some teach this still, but I suspect the youngsters gibe today at fogies who do not realize that no one uses orders any more. But suppose the orders were taught not as creations of inviolable law, but as expressions of the civilizations of Greece and Rome, the first great cultures of the western world, and then suppose the student were encouraged to investigate their implications to the uttermost. What would result? Permit me an imaginary Socratic dialogue:

I. Do you know what is a Doric column?

INTELLIGENT STUDENT. Sure, I will draw you one. See?

Who used them?

The Greeks, of course, around five centuries or so before Christ.

What did they use them for?

Temples, mostly.

Were these columns, then, considered sacred?

Not a bit of it. They were just columns and could be used anywhere, but they must have cost a lot, and the Greeks rather spread themselves on temples.

Quite a religious people, weren't they?

Not so's you could notice it. They made a lot of fuss about their gods and talked as if they met them on the street, but they razzed them all the time, and some of the stories they told of the old boys and girls were pretty snappy.

I shouldn't think they would have spent so much effort on the temples, then.

Well, their temples weren't just churches, you see. They were sort of trophy rooms, too, and almost club houses, and the best way for a city to high-hat its neighbors was to put up an extra special temple or two.

Didn't they get on with their neighbors?

Oh, yes, pretty well, but there was lots of rivalry, like between fraternities, you know, and they were always scrapping.

Regular warfare, you mean?

You said it, pretty serious at times, but usually it didn't last for long between any two. Just in the summer mostly, when the crops were in, and the heat made them edgy. Then they'd make up and pick on someone else next year. And between times they'd have athletic sports to let off steam, big meets, you know, and they backed their own men hard. City spirit, you might call it, something like college spirit, they had—lots of it—but sometimes they got pretty dirty over it. It wrecked the whole bunch of them in the end.

Did they have these meets in the big cities?

Not the biggest ones. Perhaps they didn't dare, I guess it was safer to hold them on neutral grounds, at that. The big events were at two of the big public shrines, Olympia and Delphi, and neither really counted as cities,—just show places ruled by a bunch of priests. There was another regular event at Nemea, but Nemea was rather a one-horse town and the games there weren't so much either; and there was another second-rate meet at the Isthmus, near Corinth, which was quite some city, but the stadium was pretty well outside. And they had games too, at Athens—Panathenaic they called them—but these were pretty local. They didn't draw the big men from outside.

Let's get back to our Doric columns. What else beside temples did they use them for?

Well, stoas, for instance.

What is a stoa?

Why it's a sort of long, open porch without any building behind it except sometimes a row of little shops.

What could you use a porch for without a building?

Just like any other porch in the summertime, a place to sit and talk to your friends in.

Couldn't they do that at home?

No, because the houses didn't amount to much, and they kept their women folk pretty much in the house and weren't so keen on having their men friends around until the girls had gone to bed. So they used to meet all together,—the men, that is,—in these public porches round the market place and swap stories and argue and roll the bones.

What did they argue about?

Pretty much everything. Politics chiefly, I suppose, and believe it or not, geometry and philosophy; that is, why everything is as it is, and how it got that way, and how it ought to be. Some of their gab fests were so good they wrote them down, and some of them have come down to us, and when you read them, I'll say they get you thinking.

You'd be surprised how interesting that talk is, whether it's any use or not. Some of them got together in regular organized gangs—schools, they called them. One bunch was the Stoics, because they met in stoas. One bunch was called Cynics, which means dogs, because they growled at everybody, and some groups were named for the big men of the game, like Plato or Epicurus or Pythagoras. Sometimes they'd get so violent in their discussions, they made themselves ridiculous. You ought to hear Lucian let into the bunch of them. He's a card, that boy.

Hold on, now, we're getting off the track again; we're supposed to be talking architecture. You say they had temples and stoas and rather poor houses. Anything else?

Well, theaters, of course.

Why of course?

Because next to talking themselves, there wasn't anything they got so much kick out of as hearing somebody else talk. That's why the philosophers were so popular, but the philosophers went on their own, while the plays were big affairs gotten up by the state and given only at special times like their athletic meets, or old home weeks, when everybody came to town and made a party of it. Sort of emotional bat.

Emotional?

Nothing else but. The plots of their plays didn't count for much; they used the same old ones till the rain came through. Guess they'd have been ashamed to put on a show that everybody didn't know the end of before it began. Their game was to take a stale one and pile on the sob stuff till it hurt. Not so easy, you'd think.

Did they succeed?

And how! It's queer that it gets you, being so old and all, but it does. Can't describe it; you've got to read it for yourself.

Do you read Greek?

Not a word. Sometimes I wish I did, but it's all translated—the plays, that is, and pretty well, I guess.

So far as I can gather, the Greeks must have spent all their time fighting or arguing, or at games or the theatre.

You're not a mile off at that. The women and the slaves did most of the work.

Slaves?

Sure. You see, when you went to war, if you won, you killed your enemy and got his family for slaves to do your work, or he killed you and copped your family. Either way, it was good sport and no drudgery. Only the hicks worked for themselves and they were boobs. The women always worked for someone else. It wouldn't have been respectable not to.

Perhaps I exaggerate the possibilities, but I honestly believe that, through an interest in architecture, it would be quite possible to give the average intelligent architectural student much of the essence of Hellenic culture, and do it far more easily and permanently than by any established collegiate course I know. What can be done for classic culture can, of course, be done for any other, mediaeval culture or renaissance, and since culture in general partakes of all cultures, I would let the student taste the flavor of them all and assimilate as much as he is able.

The outline of a practical program is simple. The basis is the historic development of architecture, simultaneously with which the student studies contemporaneous social and political history, religion and folk-lore, philosophy and science-literature, music and the plastic arts. The whole historic range could be conveniently divided into four years. In the first, the field would be the classic world, in the second the Middle Ages, then the Renaissance, and in the fourth year the young man could turn intelligently to modern life and understand perhaps the whys and the why-nots of modern art.

There is no reason why such a course might not be given as a general four-year undergraduate course—something approaching it has been at-

tempted by Meiklejohn at Wisconsin—but to me the great strength of the scheme is, that it is *not* a general course, but specifically a course for architects, with all the studies focused in the student's major interest. For this reason the cultural result would, I am sure, be greatly intensified if the student were simultaneously designing architecture such as would have been built by the men whom, at each moment, he is learning to call friends.

For, after all, design is design, regardless of time or period. Who would have thought from Goodhue's Council of Learned Societies here that the architect from boyhood had been reared a Goth? Three years given to designing in the language of the past, the fourth in that of the present with a background of the past, would surely raise as good designers as the now usual plan of four years of more or less Italian Renaissance, casually interspersed with disconnected problems in archaeology toward the end.

Of course, if it were so desired, the student might continue to design as he does now for a year or two after he had finished his four-years of cultural design. The total time consumed would still be less than that at present when a college course precedes the course in architecture. And while the training in the technical side of architecture would not be less in the four or five or six years' study such as I have sketched than may be secured in two or three years following a college course, I promise you the cultural results would be more real and more widespread and far more durable than where the student is prepared for architecture by courses planned for literary or scientific men or some strange hybrid of the two.

Let the architect once know architecture and he shall know all the world, his motto "Architectus sum; humani nihil a me alienum puto"—"There is no work of man that I think foreign to my interest; for I am an architect." (*Applause.*)

Chairman Emerson. Mr. Holland has opened wide a door towards the study of culture that I am sure we would all like to enter. The prospect of recommencing our architectural studies under such conditions is one that is very tempting, and we are all indebted to him for the possibilities that he has presented to us.

I am reminded, if I may be personal for a moment, of an occasion of some thirty-five or forty years ago when my father, interested in the possibility of my ultimately becoming an architect, thought it behooved him to enquire what sort of an education such a prospect ought to have. He went to his friend, Mr. Russell Sturgis in New York, and he put the question to him. Mr. Sturgis hemmed and hawed for a few minutes, and my father said, "Well, what ought an architect to know?"

"Why," said Mr. Sturgis, "an architect ought to know more about everything than any one else."

I think that satisfactorily fills the program laid out by Mr. Holland.

ARCHITECTURE AND THE THEATRE

ADDRESS OF WALTER PRITCHARD EATON

Evening Session—May 23, 1930.

Mr. Eaton. Ladies and Gentlemen, I am glad that I know now why I am here. One of your members from my home city of Boston, meeting me before the dinner, said, "I would like to know what your connection is with architecture." Well, I couldn't tell him.

As a reporter, I remember that many years ago a man named William Everett, one of the most quaint and curious characters who ever represented Massachusetts in the House, and who, incidentally, had the most remarkable memory that was ever known to man, was invited to address a banquet given by the City of Boston to the officers of a visiting Italian warship.

At this dinner, William Everett got up and began to recite Tasso in the original. He recited it for fifteen minutes and nobody, of course, understood him, except the officers of the Italian warship (and I don't know whether they did). But, when he got through, he looked at the bewildered crowd and said, "I have been waiting twenty years for a chance to quote that!"

Well, I have been waiting a good while for a chance to say a few things to architects, because whether you realize it or not, architecture in the past has had a very pronounced influence upon the theatre. It has today a tremendous influence

and presents the opportunity to exert even more influence in the years immediately ahead.

I am not going to go deeply into history, and of course you are all much more familiar than I am with Palladio's famous theatre in Vicenza where he constructed an old Roman theatre, put a roof over it and by so doing set the horseshoe auditorium fast upon the world. (The Metropolitan Opera House is, of course, Palladio's theatre by direct descent.)

That was in 1585. Five years later it occurred to another architect to take the three doorways which were in the back wall of the very shallow stage of the classic Roman theatre, enlarge them a little, and set up in them little street perspectives which, of course, were built up out of classic Roman houses, so that as you looked at the stage, you seemed to be looking through those three arches into the distance, the last little house in the perspective being only about two feet high. The actors couldn't very well enter there; they still had to enter on the sides of the stage, but it did give a certain illusion of depth.

Shortly after that another architect enlarged those openings still more, so that he could increase the size of the architectural structures or scenery which was painted and set up behind.

A few years later the Englishman, Inigo Jones, who was then studying in Italy, combined those three classic doorways into one large arch and set his scenery behind that, thus deepening the stage and making it practical for the actors. That was the beginning of the modern proscenium arch, our theatre where the fourth wall is removed from a room.

Inigo Jones went back to England where the theatre had developed on quite a different system of staging. The English stage was practically all forestage—it was a platform jutting out into the auditorium. That was the stage on which Shakespeare's plays were acted and for which all the English dramatic technique had been developed. Jones began to put his Italian ideas of scenery into effect, not in the theatre of Shakespeare but in the classic masques presented for James I and Charles I.

Eventually the forestage was diminished until finally it had shrunk entirely, the playing space ended straight across the line of the proscenium, and all of the actors were set behind that proscenium frame, in painted scenery. That had a tremendous influence on playwriting.

The long evolution of the past 300 years has been to a very considerable extent, more than any of you gentlemen perhaps realize, an evolution fastened upon the theatre by Mr. Palladio, Mr. Inigo Jones and the rest of them, back to the days of the Renaissance.

You are probably all familiar with the extraordinary Italian designs for stage scenery made in the 18th Century, especially by the Bibiena family. One of them wrote a book in 1730, called "Architecture and Perspective," a fascinating book for both architects and stage designers. It was entirely composed of perfectly magnificent designs for stage sets, which were all worked out in this scheme that Inigo Jones had devised, of wing pieces coming in from the sides, each pair receding and coming closer together, and, finally, a back drop.

These designs of the 18th Century Italians were very ornate, and showed infinite perspectives. Of course, that perspective was in part made by the wing pieces, each one a little smaller than the one in front of it, and then carried on in perspective drawing on the back drop.

Some of you who are as old I am will remember something known as the Cyclorama of the Battle of Gettysburg. When I was a youngster I was taken to see it. All around was painted the Battlefield of Gettysburg, and in the foreground there was reality—real stone walls that led from your feet out to this cyclorama and continued in painted perspective on to the cyclorama. You couldn't always tell where the reality ended and the drawing began.

That was the effect these stage settings were supposed to have, but they could never really have achieved it. Being done in perspective, they could never be right except from one point in the auditorium, and if you got your lights wrongly adjusted, your actual illumination would cast a shadow one way and the painted illumination would be going in the other direction.

Yet that style of scenery was put into the theatre with so tremendous an impact in the 18th Century by these Italian designers that it took practically the entire 19th Century to rid the stage of that type of scenery.

It was architectural scenery in the sense that it was nearly always composed of paintings in perspective of architectural designs, yet it wasn't nearly so architectural as the scenery which has come in our day, because, after all, it was two-dimensional, and against that you got three-dimensional actors.

So in our day there has been almost a complete revolution in stage scenery, in the whole mood and purpose behind the settings. There is an attempt now to make them, among other things, three-dimensional, more truly architectural, and in that modern revolution of stage scenery the

architects and artists of this country and of Europe have played a really enormous part.

In the New York Theatre Guild production of "A Month in the Country" there were reproductions of Dobujinsky's scenery made for the Moscow Art Theatre production of that play in Moscow. One room in that play—a sort of Russian Empire room—was done in blue, a blue room, rather beautiful, rather odd and attractive. And yet it was strangely enervating.

As you sat in front of that scenery, you got the feeling that life in that room was going at a slow and enervated pace. It was a real architectural setting. It took an architect to do it, and yet by grasping the dramatic mood of the play and incorporating that into the color and design of the room, he got a really wonderful dramatic effect. That is one example of what the modern architect and artist has brought to the new theatre.

Another is the striking production of Aristophanes' "Lysistrata," which has been designed and staged by Norman Bel-Geddes. I don't know whether it is safe to call Norman Bel-Geddes an architect in this company or not. At any rate, it is a very extraordinary production—extraordinary in its design, color, and rendering of the marvelous farcical comedy and yet bitterly satiric mood of the play.

There is a case where an architect has directly contributed to every department of a production. Of course, Claude Bragdon has made practically all the scenery for Mr. Walter Hampden's Shakespearean and other productions for the last ten years, and there are many others I could name.

Everybody has been appealing to you for your aid in this, that, or other mission, so I might as well continue. The theatre in this country needs you, gentlemen. Some people will tell you there isn't any future for the theatre in America; that we have gone completely "speakie" or "squawkie." That isn't true. We shall always have the theatre. But the theatre of the future is going to be completely different from the theatre of the past, which, for a great many years now, in spite of many notable achievements, has been a theatre of commercial shopkeepers—little, ignorant, money-grabbing, commercial shopkeepers located between 39th and 52nd Streets in New York City. The rest of the country has taken just what they gave it and has been thankful or not as the case may be.

That type of theatre is dead. The theatre of the future in this country is going to be more or less a local affair. A town or a city that wants the spoken drama will have to create it for itself. They are doing it now in many places, and that is where you gentlemen can help.

I suppose nearly all of you have built schools, high schools. I will bet there aren't three people here who have ever put an adequate theatre into a public high school auditorium. Some of you may have tried to but been unable to secure sufficient funds from the school committee.

This coming season, the Chicago Shakespeare Repertory Company is sending out its troupe to some forty-eight different high schools in the Middle West. The children in those high schools, in probably seventy-five out of one hundred cases, have never before seen the spoken drama professionally acted. It is their first, perhaps only, chance really to understand what the spoken word, by living actors, is in the theatre. How can they do it if there isn't a place where it can be spoken?

In other words, that company will go to those high school auditoriums which have proper equipment. That is going to be increasingly in the future one of the functions of the school auditorium in our communities, not only to furnish the children with a place where they can practice the art of the drama but where they also can see it played by skilled professionals.

The need for proper theatres in high school and other school auditoriums will be increasingly great as time goes on, and it is up to you gentlemen who design schools to use every possible argument and pressure to have those schools designed with proper stages. It is not only in high schools but in municipal auditoriums and other community buildings that a proper stage can mean everything to the future of the drama in this country.

I am not sure that architects always understand what a proper stage is. I hate to say this, but some years ago a very magnificent and beautiful theatre was built in a large American city by a famous firm of American architects. After it was built it was discovered that it was wonderful to look at but that you couldn't hear. Professor Sabin of Harvard, the acoustical expert, was called in to see what he could do about it. And he said in his soft little voice, "You know, so many acoustic mistakes have been made in this house that it looks almost as if it were deliberate." (*Laughter.*)

I don't know of any more delightful or more effective way of learning what is required of a proper stage than by playing in the theatre oneself. There is no way in which you can learn so well the practical needs of the theatre as by having to design a setting yourself in an inadequate

place and light it with inadequate equipment. If you have once done that, you will never build a theatre again without proper equipment and proper stage room.

The theatre of the future in this country must be created by the local communities. That means in many cases it has to start as an amateur theatre. What most amateur theatricals, or most amateur attempts at anything need, is a sense that artistic effect is not achieved without hard work and discipline. If an artist in one branch, say architecture, who knows the necessity of accuracy, hard work and artistic discipline, works as an amateur with another group, he gives to them his spirit of work and discipline. He teaches them something which is absolutely essential to their success. If you will go through this country and study the amateur theatres already functioning seriously as fine community centers of the art of the drama, you will find that in every case there has been that professional aid, freely given to them, by an architect or an artist or some other professional worker who joined the group as a player.

The Pasadena Community Playhouse, which is, all things considered, perhaps the finest theatre today in the United States, started as a little amateur movement, but it had certain professional workers in it, as amateurs, who gave it the discipline and the seriousness that was necessary. There is the Cleveland Playhouse of McConnell's and at least half a dozen other centers throughout the country which now are functioning as serious theatres, giving to their community real dramatic art. In every case they started as amateurs, and got their impetus from these workers from one of the other arts, in many cases from architects.

If one of you should join an amateur group, help them with a stage setting, and in your stage setting achieve a real creative artistic effect, then just so far as you have done that you have given to that production real illusion. The minute you give it real illusion, it ceases to be just something that John and neighbor Fanny are doing for the fun of it; it becomes a reality to the audience, it becomes a force in their lives, and from there is goes on until it becomes a Pasadena Community Playhouse. You can get much pleasure from it, and at the same time you can do a great deal of good for the theatre. Nor does its effect stop with the theatre, gentlemen.

It is very easy, in the City of Washington, to be enormously optimistic about the future of architecture, the future of all the arts, and the future of parks. It isn't so easy if you are driving out from New York to play golf somewhere in Long Island, and you ride through mile after mile of what somebody has called "rectilinear suburbanhood." It isn't so easy if you are driving from Boston, let us say, to Portland, Maine, by the Newburyport Turnpike, and you pass filling station after filling station, hot dog kennel after hot dog kennel and ugliness after ugliness. This is all part of the same future.

If you bring up a race of people on a moron art, with no other standards than the romantic twaddle of the motion picture, the pictures of girls on billboards by the side of the highway, and the cheap magazines current—if that is the substance of your whole civilization, you may have some beautiful buildings in Washington but you will have some awful buildings all over the rest of the country. (*Applause.*)

You will get a race sooner or later that won't care, and they won't care because they won't know any better. We are all in the same boat, those of us who write, who paint, and who design buildings; those of us who are trying to do anything at all toward the creation of beauty. We must have more than the government of the District of Columbia behind us. We have got to have everybody behind us, and the only way we can do that is to give them, as they start in life, some kind of a background which will help them understand what creative art and beauty really are.

And that is the importance of high school dramatics, where good plays are presented and the children themselves have some share in creating them.

If you want your neighbors to ask you to design worthy buildings for them in the year 1945, you must get back of all the attempts that are being made today to keep the spoken drama, the beautiful art of Shakespeare, Shaw and the other masters alive. (*Applause.*)

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